TM 11-5820-203-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ORGANIZATIONAL,
DS, GS, AND DEPOT
MAINTENANCE MANUAL

REPEATER SET, RADIO AN/MRC-54(V) INCLUDING REPAIR PARTS AND SPECIAL TOOL LISTS

HEADQUARTERS, DEPARTMENT OF THE ARMY

22 JULY 1965

WARNING

High voltage is used in the equipment.
DEATH ON CONTACT may result if safety
precautions are not observed.

EXTREMELY HIGH POTENTIALS EXIST IN THE FOLLOWING UNITS:

SIGNAL AND POWER ENTRANCE box	115 volts ac
POWER DISTRIBUTION PANEL	115 volts ac
Radio equipment	900 volts dc
Intercommunication Station LS–147(*)/FI	270 volts dc

VENTILATION IS ESSENTIAL

The AN/MRC–54(V) must be ventilated at all times when occupied.

ANTENNA ERECTION WARNING

During assembly and erection of the antenna system, observe all safety requirements in TB SIG 291. INJURY or DEATH can result from failure to comply with the safety procedures.

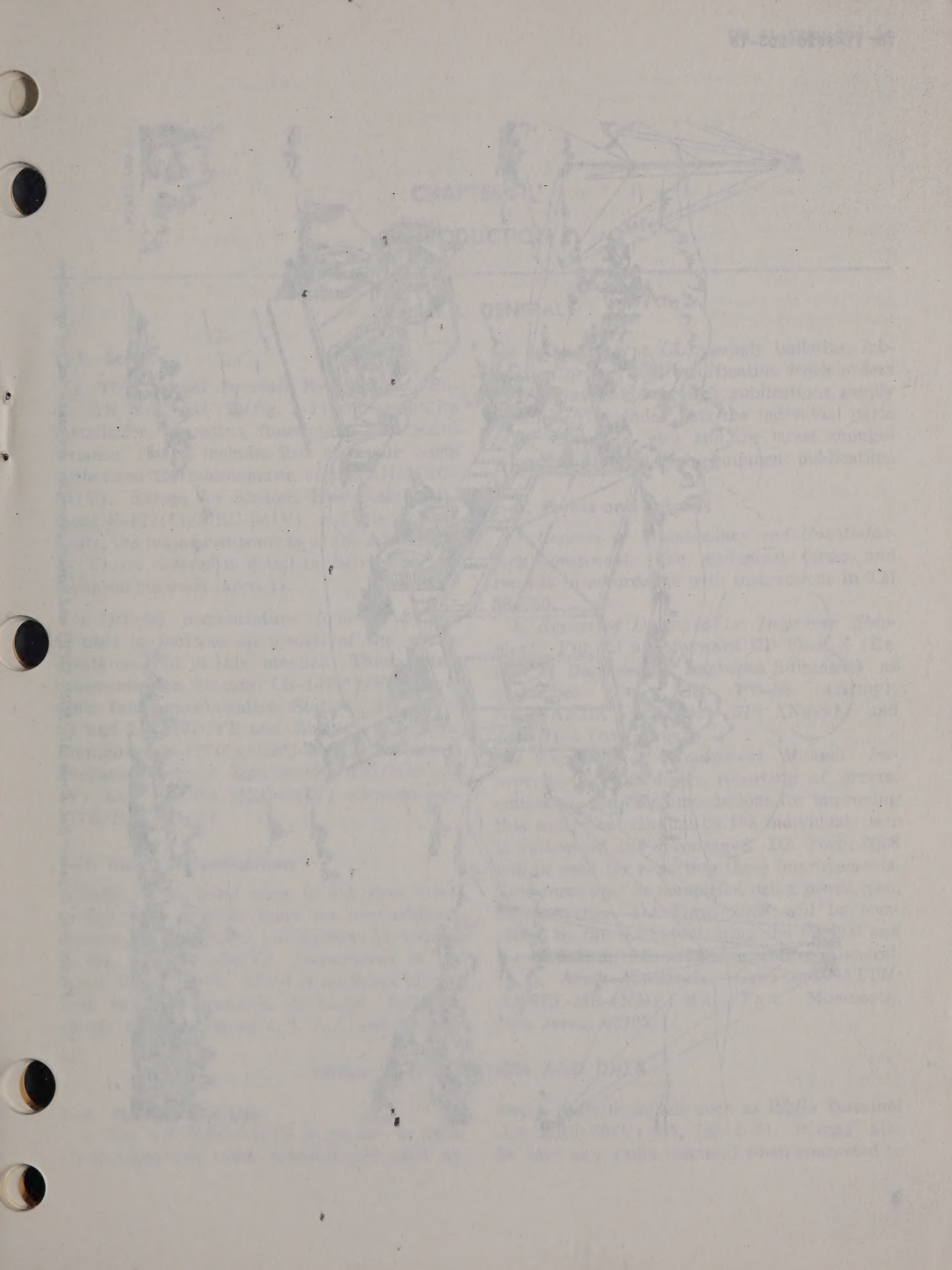
DON'T TAKE CHANCES!

TECHNICAL MANUAL
No. 11–5820–203–15

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D. C. 20315, *22 July 1965*

REPEATER SET, RADIO AN/MRC–54 (V)

***This technical manual supersedes TM 11–5820–203–15, 29 September 1959, including C3, 15 August 1961, C6, 19 April 1963, and C7 21 December 1964 and TM 11–5820–203–25P, 21 December 1964.**



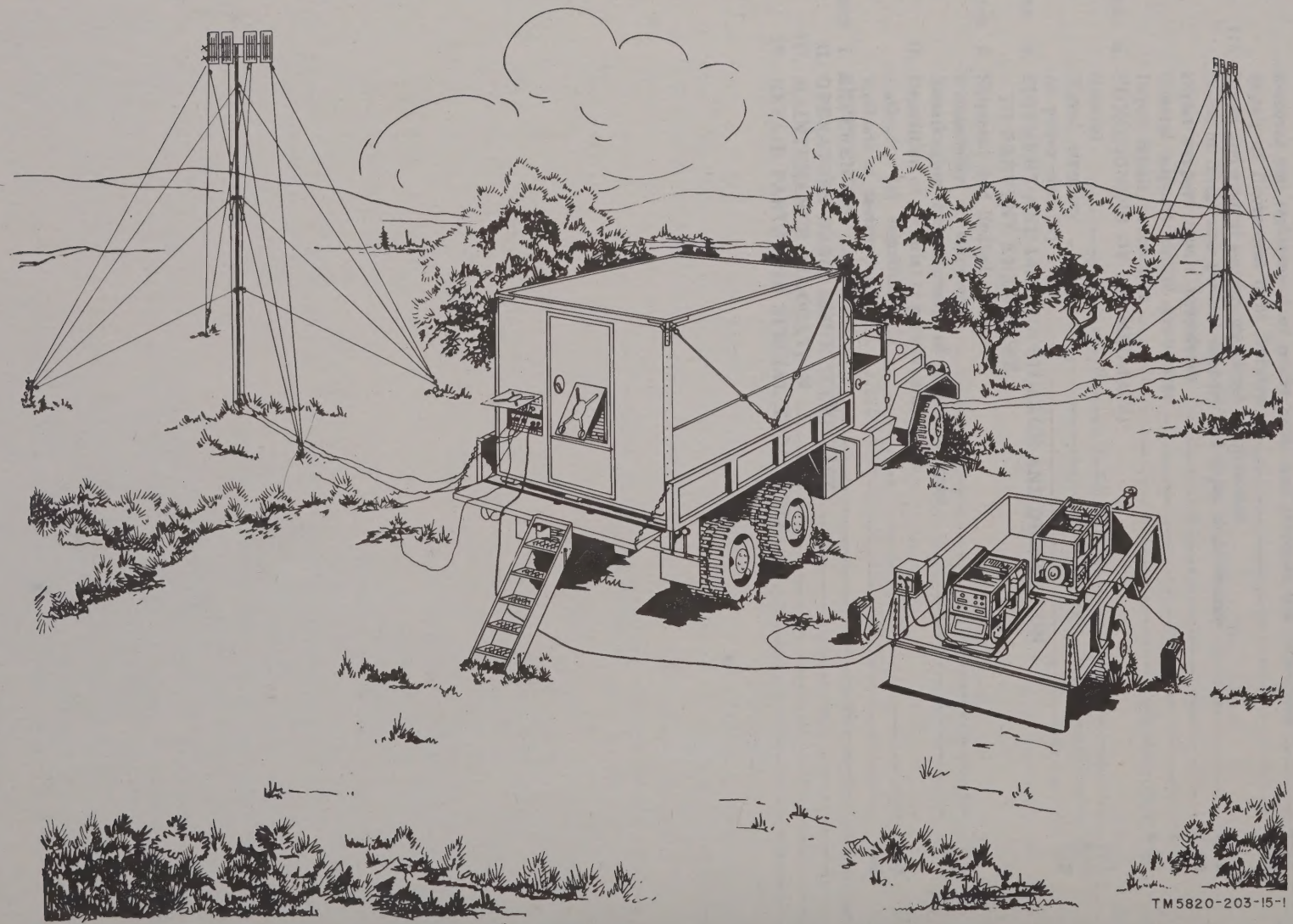


Figure 1–1. Repeater Set, Radio AN/MRC–54(V) and typical generator set connected for operation.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual describes Repeater Set, Radio AN/MRC-54(V) (fig. 1-1) and covers its installation, operation, functioning, and maintenance. It also includes lists of repair parts authorized for maintenance of the AN/MRC-54(V). Except for Shelter, Electrical Equipment S-177(*)/MRC-54(V) and its components, the major components of the AN/MRC-54(V) are covered in detail in their respective technical manuals (appx I).

b. Official nomenclature followed by (*) is used to indicate all models of the equipments covered in this manual. Thus, Intercommunication Station LS-147(*)/FI represents Intercommunication Stations LS-147C/FI and LS-147D/FI and Shelter, Electrical Equipment S-177(*)/MRC-54(V) represents Shelters, Electrical Equipment S-177/MRC-54(V) and S-177A/MRC-54(V) through S-177E/MRC-54(V).

1-2. Index of Publications

Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the AN/MRC-54(V). Department of the Army Pamphlet No. 310-4 is an index of current technical manuals, technical bulletins, supply manuals (types 4, 6, 7, 8, and 9), supply catalogs (type CL), supply bulletins, lubrication orders, and modification work orders that are available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc) and the latest changes to and revisions of each equipment publication.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions in TM 38-750.

b. Report of Damaged or Improper Shipment. Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58 (Army), NAVSANDA Publication 378 (Navy), and AFR 71-4 (Air Force).

c. Reporting of Equipment Manual Improvements. The direct reporting of errors, omissions, and recommendations for improving this equipment manual by the individual user is authorized and encouraged. DA Form 2028 will be used for reporting these improvements. This form may be completed using pencil, pen, or typewriter. DA Form 2028 will be completed by the individual using the manual and forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-MR-(NMP)-MA, Fort Monmouth, New Jersey 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

a. The AN/MRC-54(V) is an air- or vehicle-transportable radio repeater set used between radio terminals such as Radio Terminal AN/MRC-69(V) (A, fig. 1-2). It may also be used as a radio terminal when connected to

appropriate telephone terminal equipment (B, fig. 1-2).

b. The letter V in the nomenclature (AN/MRC-54(V)) indicates that the radio equipment used in the shelter is variable and is to be determined by the operating frequency requirements of the user. Any of six frequency bands within the 50-megacycle (mc) to 1,875-mc range may be used (para 1-5). The components required to provide the appropriate frequency bands are listed under *radio equipment* in appendix II.

1-5. Technical Characteristics

a. Power Requirements.

Type	115 volts (±10%), 50 to 60 cps, single-phase ac.
Consumption:	
Radio sets (3)	3,300 watts (1,100 watts each set).
Blowers (2)	250 watts (125 watts each blower).
Heater	1,500 watts.
Intercom	40 watts.
Shelter lighting	250 watts.
Total	5,340 watts (approx).

b. Radio Facilities.

Radio set (appx II)	3.
Type of modulation	Frequency modulation (fm).

Operating frequency ranges and power output:

	Frequency	Power output
A-band	50-100 mc;	60-100 watts
B-band	100-225 mc;	70-115 watts
C-band	225-400 mc;	70-115 watts
D-band	400-600 mc;	50-100 watts
F-band	790-965 mc;	10-14 watts
J-band	1,350-1,875 mc;	10-14 watts

Transmission range[1].	Line of sight (approx 30 miles (48 kilometers) at ground level).

c. Local Communication Facilities.

Telephone circuit	Telephone Set TA-312/PT
Intercom circuit	Intercommunication Station LS-147(*)/FI.

d. Weight and Dimensions (outside).

Weight	6,200 lb (approx 7,700 lb crated).
Length	138 in.
Width	80 in.
Height	77-1/2 in.

1-6. Components of Repeater Set, Radio AN/MRC-54(V)

The basic issue items list (appx II) lists the components that comprise a complete AN/MRC-54(V). Refer to paragraph 1-5 for the overall dimensions of the assemblage and to figure 1-3 through 1-11 and 6-1 through 6-3 for illustrations of components of the AN/MRC-54(V).

1-7. Description of Repeater Set, Radio AN/MRC-54(V)

The AN/MRC-54(V) consists of Shelter, Electrical Equipment S-177(*)/MRC-54(V) (shelter facility) (fig. 1-3) and the communication equipment and miscellaneous components listed in appendix II. All external signal and power connections are made at the SIGNAL AND POWER ENTRANCE box. Figures 1-4, 1-5, and 6-1 show interior details of the AN/MRC-54(V). Refer to paragraphs 1-8 and 1-9 for a description of the shelter facility and the major equipment components.

1-8. Description of Shelter, Electrical Equipment S-177(*)/MRC-54(V)

The S-177(*)/MRC-54(V) is an electrical equipment shelter modified to accommodate the equipment components of the AN/MRC-54(V) (fig. 1-3). The shelter facility can be transported by helicopter or truck and is fully insulated and weatherproof. Two exhaust blower vents with hinged covers are located on the outside front wall. The upper section of the two-section door at the opposite end of the shelter facility permits entrance when the shelter facility is truck-mounted and the tailgate is up.

[1]Approximate values; range will vary according to atmospheric conditions and terrain.

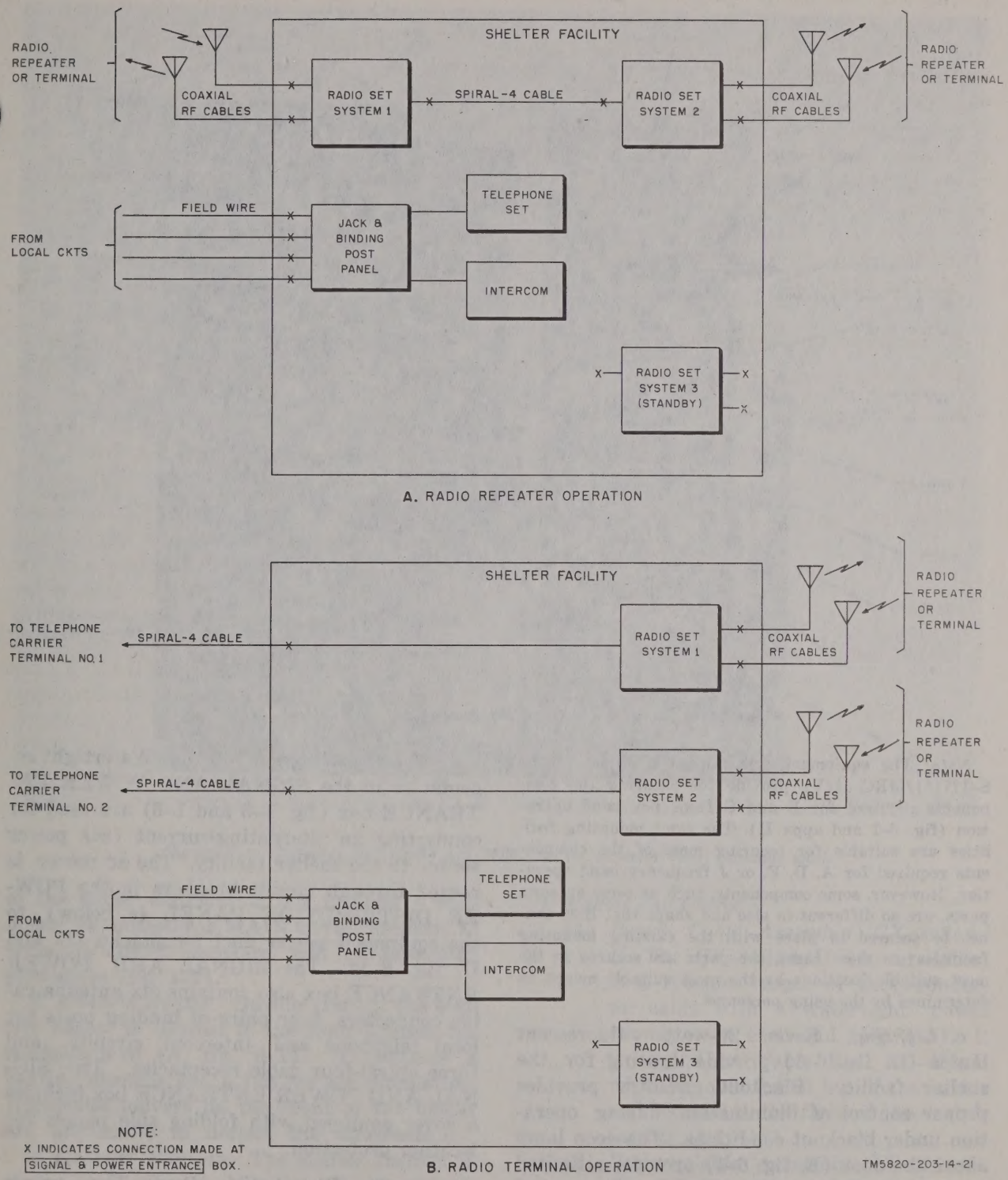


Figure 1-2. Repeater Set, Radio AN/MRC-54(V), equipment operating arrangements, block diagram.

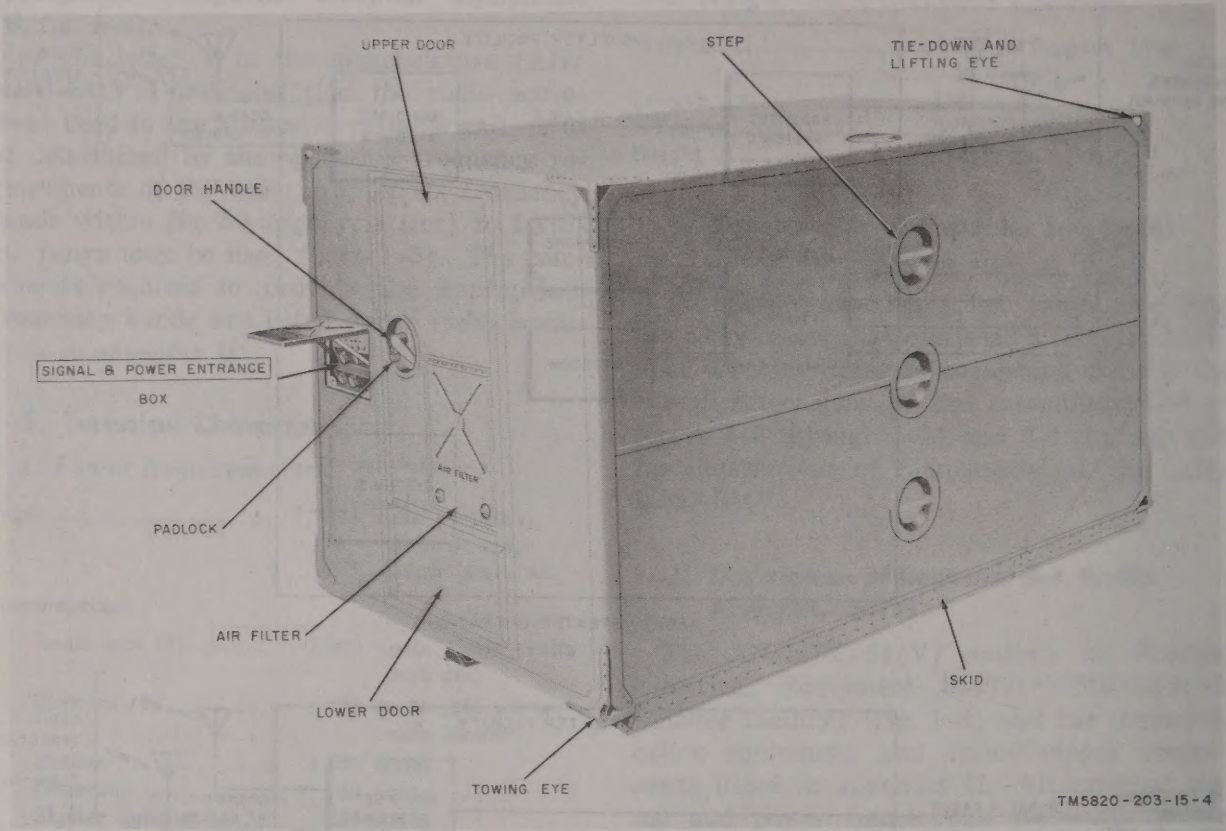


Figure 1–3. Shelter, Electrical Equipment S–177(*)/MRC–54(V).

Note: The equipment mounting facilities in the S–177(*)/MRC–54(V) provide for securing the components required for B and C frequency band operation (fig. 6–1 and appx II). The same mounting facilities are suitable for securing most of the components required for A, D, F, or J frequency band operation. However, some components, such as some antenna parts, are so different in size and shape that they cannot be secured in place with the existing mounting facilities; in these cases, the parts are secured in the most suitable locations by the most suitable means as determined by the using personnel.

a. Lighting. Seven 20-watt fluorescent lamps (D, fig. 6–1) provide lighting for the shelter facility. Blackout circuitry provides proper control of illumination during operation under blackout conditions. The neon lamp above the door (E, fig. 6–1) provides a limited amount of illumination when the fluorescent lights are extinguished during operation of the blackout circuitry.

b. Power and Signal Wiring. Watertight receptacles in the SIGNAL AND POWER ENTRANCE box (fig. 1–3 and 1–6) are used for connecting an alternating-current (ac) power source to the shelter facility. The ac power is routed through circuit breakers in the POWER DISTRIBUTION PANEL (*c* below) to the equipment power duct receptacles (B and D, fig. 6–1). The SIGNAL AND POWER ENTRANCE box also contains six antenna cable connectors, four pairs of binding posts for local telephone and intercom circuits, and three spiral-four cable receptacles. The SIGNAL AND POWER ENTRANCE box includes a cover equipped with folding side panels for weather protection.

c. Power Distribution Box. The power distribution box is mounted on the front wall of the shelter facility (B, fig. 6–1). The panel

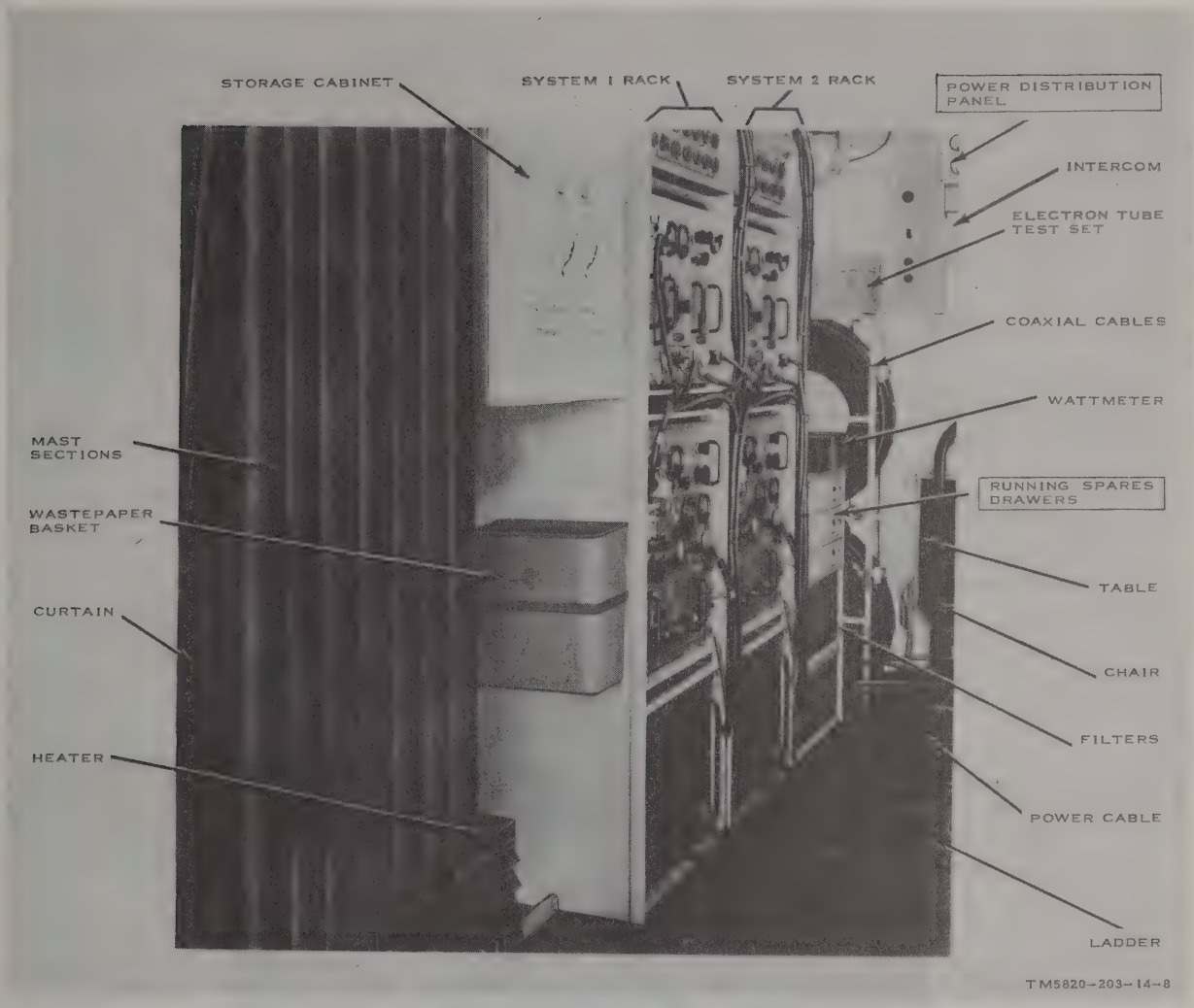


Figure 1–4. Repeater Set, Radio AN/MRC–54(V), interior view, roadside wall.

of the power distribution box includes a voltmeter, an ammeter, a MAIN circuit breaker, 12 tributary circuit breakers, and 12 associated glowlamps (fig. 1–7).

d. Electric Heater. During transit, the electric heater is secured to the floor against the roadside wall (A, fig. 6–1). It contains a heating element and a fan for air circulation. Horizontal louvers on the front of the heater are adjustable to deflect the airstream.

e. Exhaust Blowers. The shelter facility in cludes two exhaust blowers (B, fig. 6–1). Lighttight vents, equipped with hinged covers and rain shields, permit flow of exhaust air to the outside of the shelter.

f. Cables and Cords.

(1) *Power Cable Assembly CX–4694A/U.* The CX–4694A/U (power cable) is a 100-foot length of three-conductor cable with a watertight power connector at each end (fig. 1–8). It is wound on Cable Reel RC–435/U which is mounted on top of the ladder and secured to the floor of the shelter facility (fig. 1–5).

(2) *Power Cable Assembly CX–2254/U.* The CX–2254/U (power cable stub) is a 10-foot length of three-conductor cable with a watertight power connector at one end and red, white,

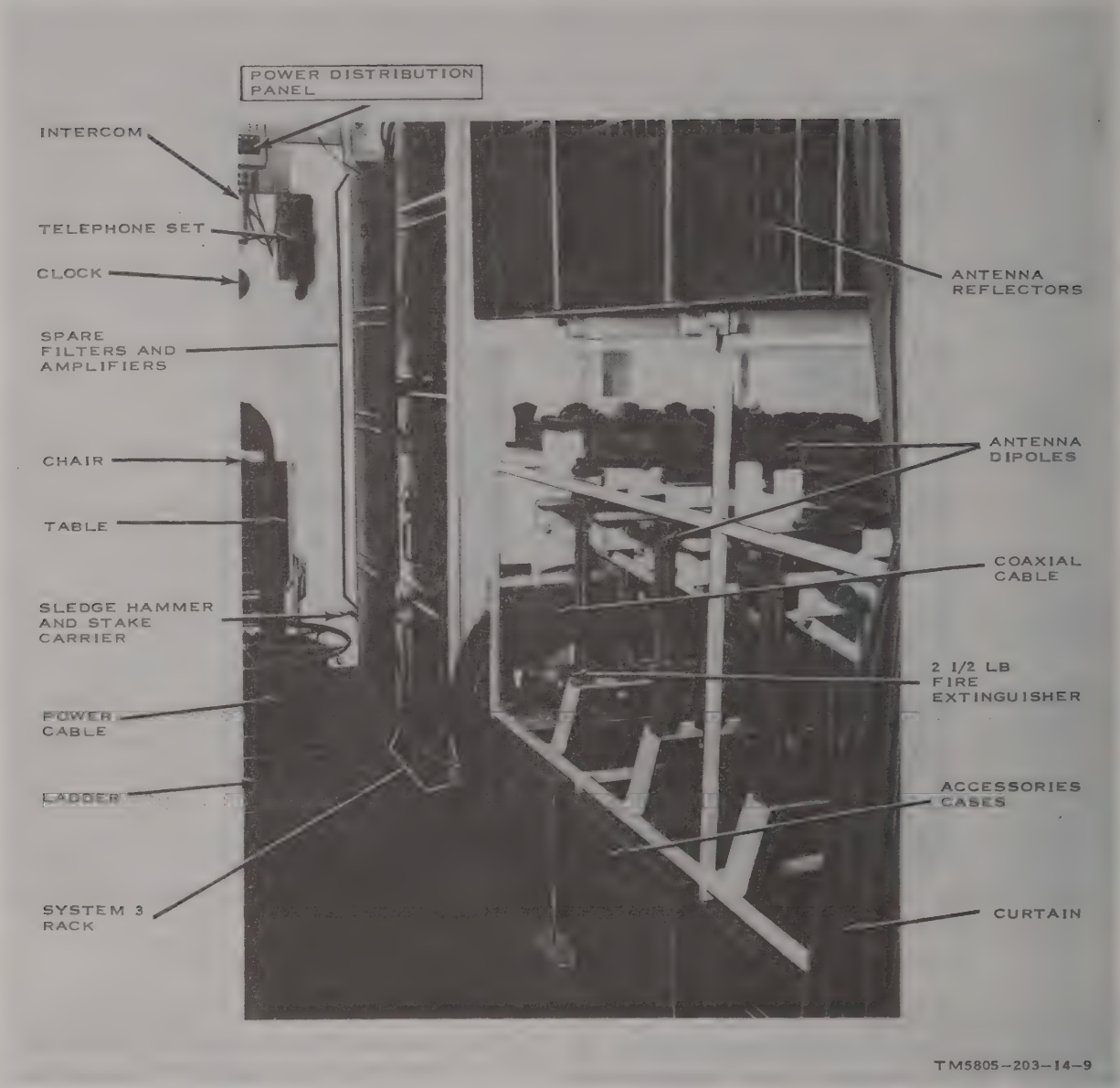


Figure 1–5. Repeater Set, Radio AN/MRC–54(V), interior view, curbside wall.

and black prepared leads at the other end (fig. 1–8). When not in use, it is stored in the accessories and spares cabinet (A, fig. 6–1).

(3) *Telephone Cable Assembly CX–1606 /G.* The CX–16606/G is a 3-foot length of spiral-four cable with a spiral-four connector at each end (fig. 1–9). It is used to interconnect two of the radio sets for radio repeater operation. When not in use, it is stored in the accessories and spares cabinet.

(4) *Electrical Cord Assembly CX–4695/U.* Two CX–4695/U's (telephone cords) are furnished for connection

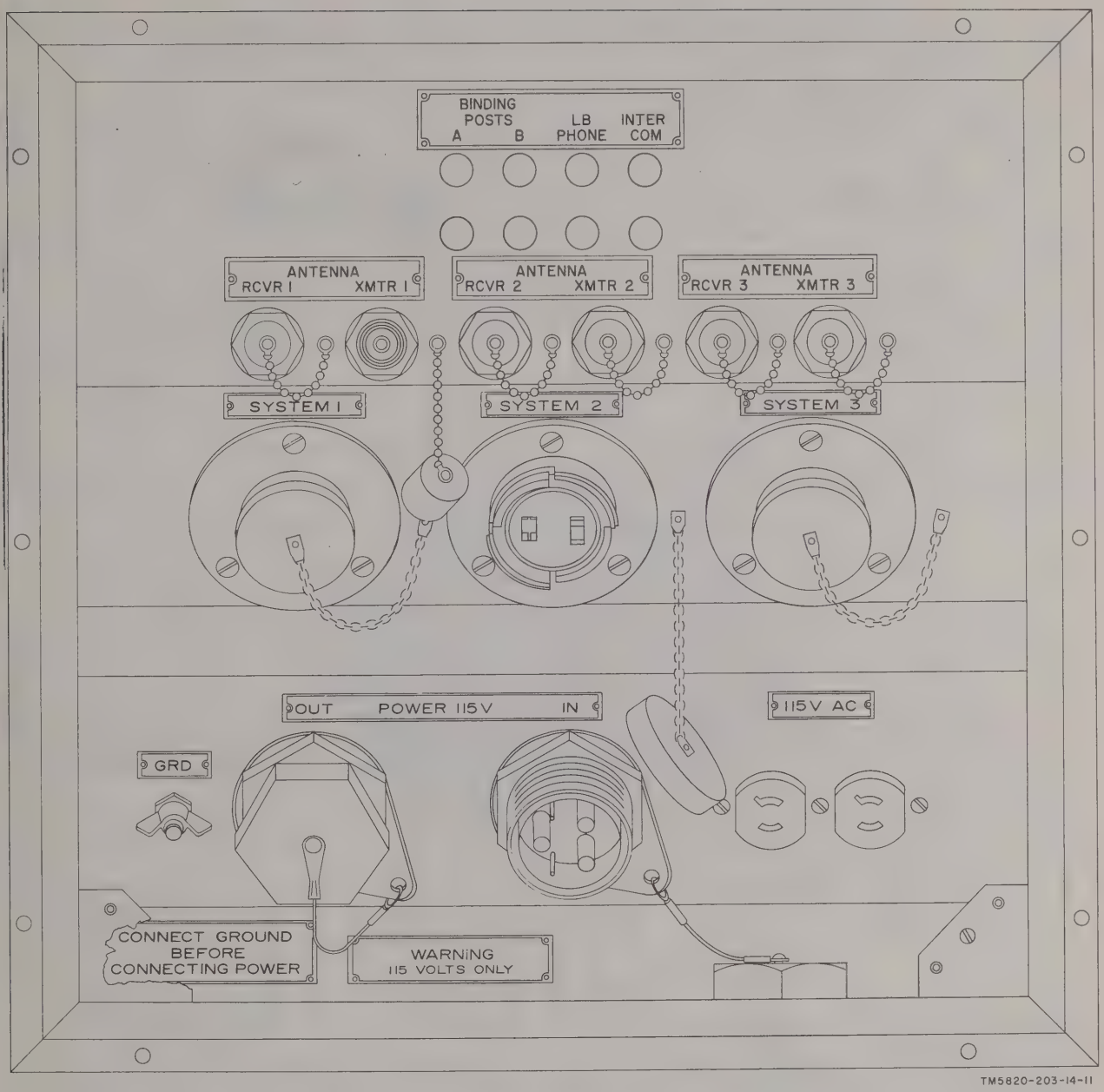
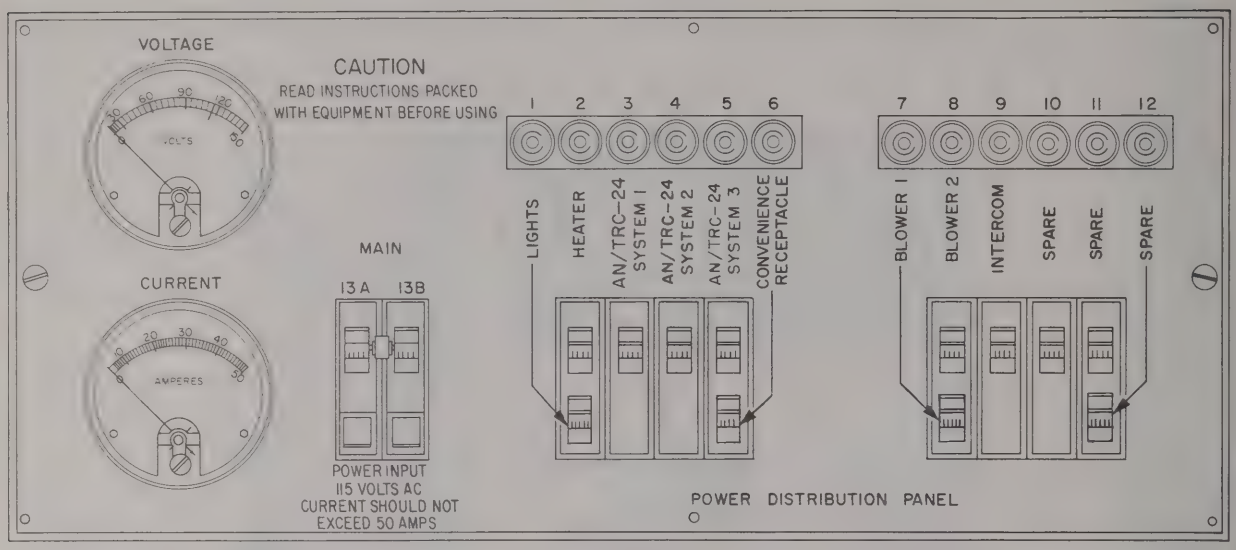


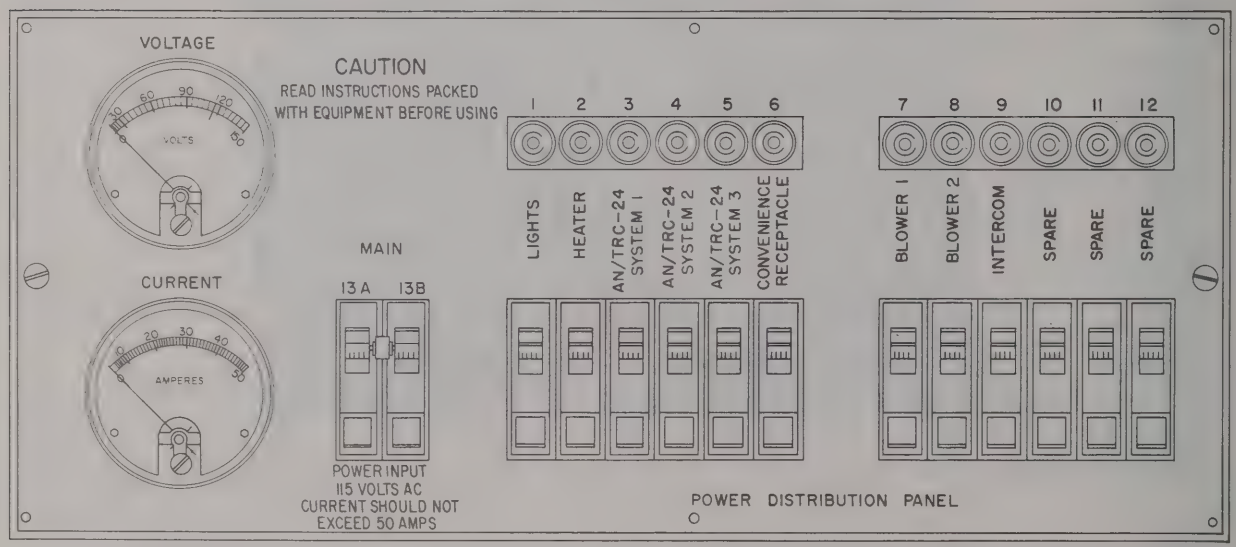
Figure 1–6. SIGNAL AND POWER ENTRANCE box.

of Telephone Set TA–312/PT and Intercommunication Station LS–147 (*)/FI to the shelter facility jacks (fig. 1–9).

(5) *Power Cable Assembly CX–4772/U.* The CX–4772/U (fig. 1–9) consists of a 6-foot length of two-conductor cable with a male plug at one end and a two-conductor female twist-lock connector at the other end. It is provided to permit operation of Power Supply PP–685/TRC (power supply) when removed from its mounting rack for repair or adjustment.



A. PANEL OF S-177A/MRC-54(V) THRU S-177E/MRC-54(V)



B. PANEL OF S-177/MRC-54(V)

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Figure 1-7. Power distribution panels.

When not in use, the CX-4772/U is stored in the accessories and spares cabinet.

(6) *Power Cable Assembly CX-4773/U.* The CX-4773/U (fig. 1-9) consists of a 6-foot, 2-inch length of two-conductor cable with a male plug at one end and a three-conductor female twistlock connector at the other end. It is provided to permit operation of Radio Receiver R-417/TRC (receiver) when removed from its

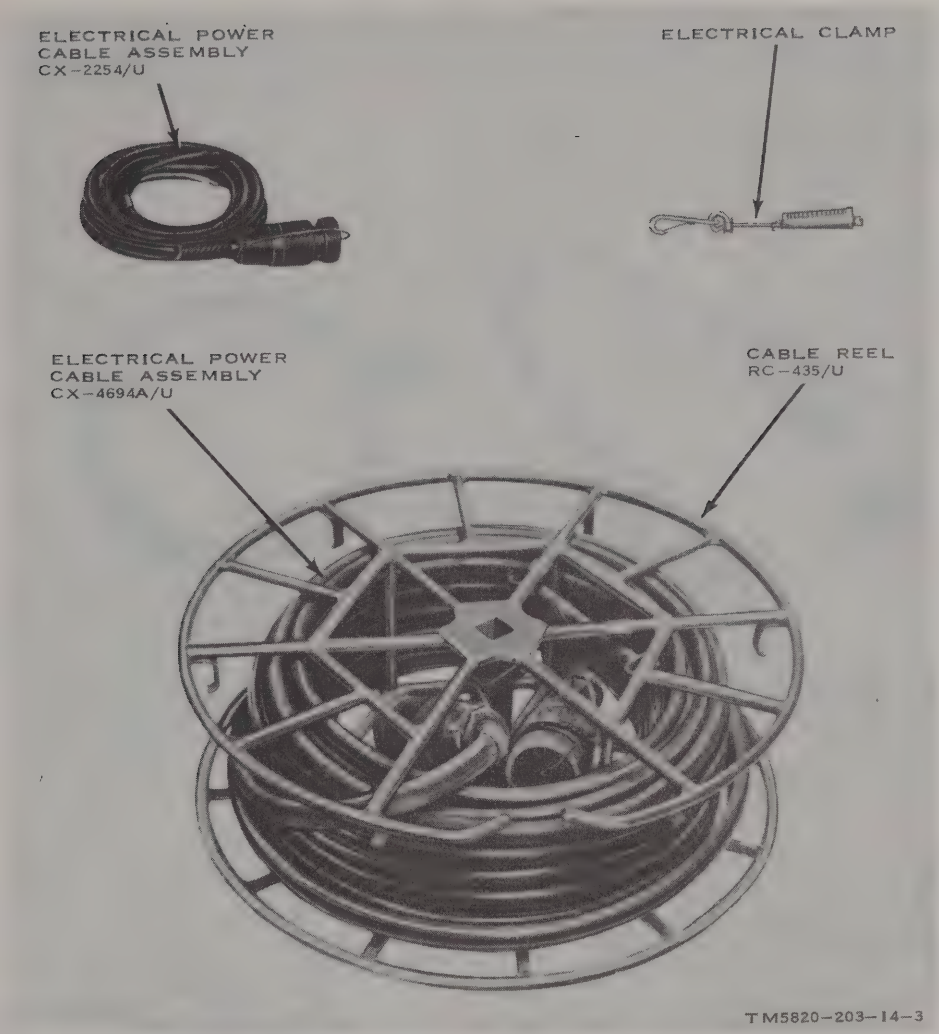

Figure 1–8. Power cable, power cable stub, and electrical clamp.

mounting rack for repair or adjustment. When not in use, the CX–4773/U is stored in the accessories and spares cabinet.

g. Clock and Tool Mounting Board. An 8-day, luminous-dial, 24-hour clock and the tool mounting board are mounted on the front wall of the shelter facility (fig. 1–10 and 6–1).

h. Shelter Facility Running Spares. The shelter facility running spares are shown in figure 1–11. Refer to appendix II for detailed running spares information.

i. Reel Unit RL–31–(*) (TM 11–362). The RL–31–(*) consists of an A-shaped frame, axle, one or two brake units, one or two hand-cranks, and miscellaneous items. The frame and axle are stored against the front wall (B, fig. 6–1). The remaining items are stored in the accessories and spares cabinet (A, fig. 6–1).

1–9. Description of Equipment Components

a. Radio Equipment (TM 11–5820–287–10). Radio equipment for three systems is

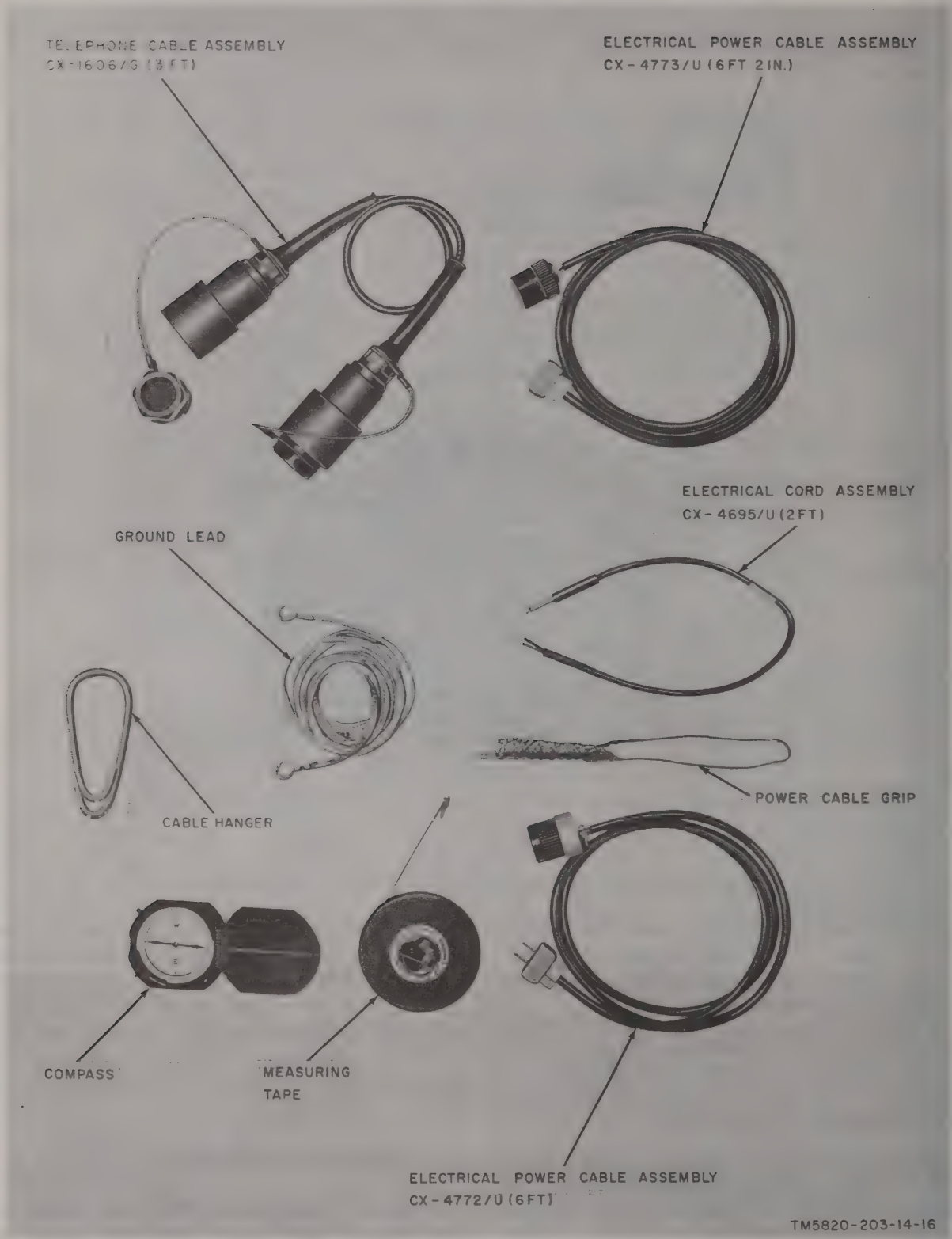

Figure 1–9. Miscellaneous components of shelter facility.

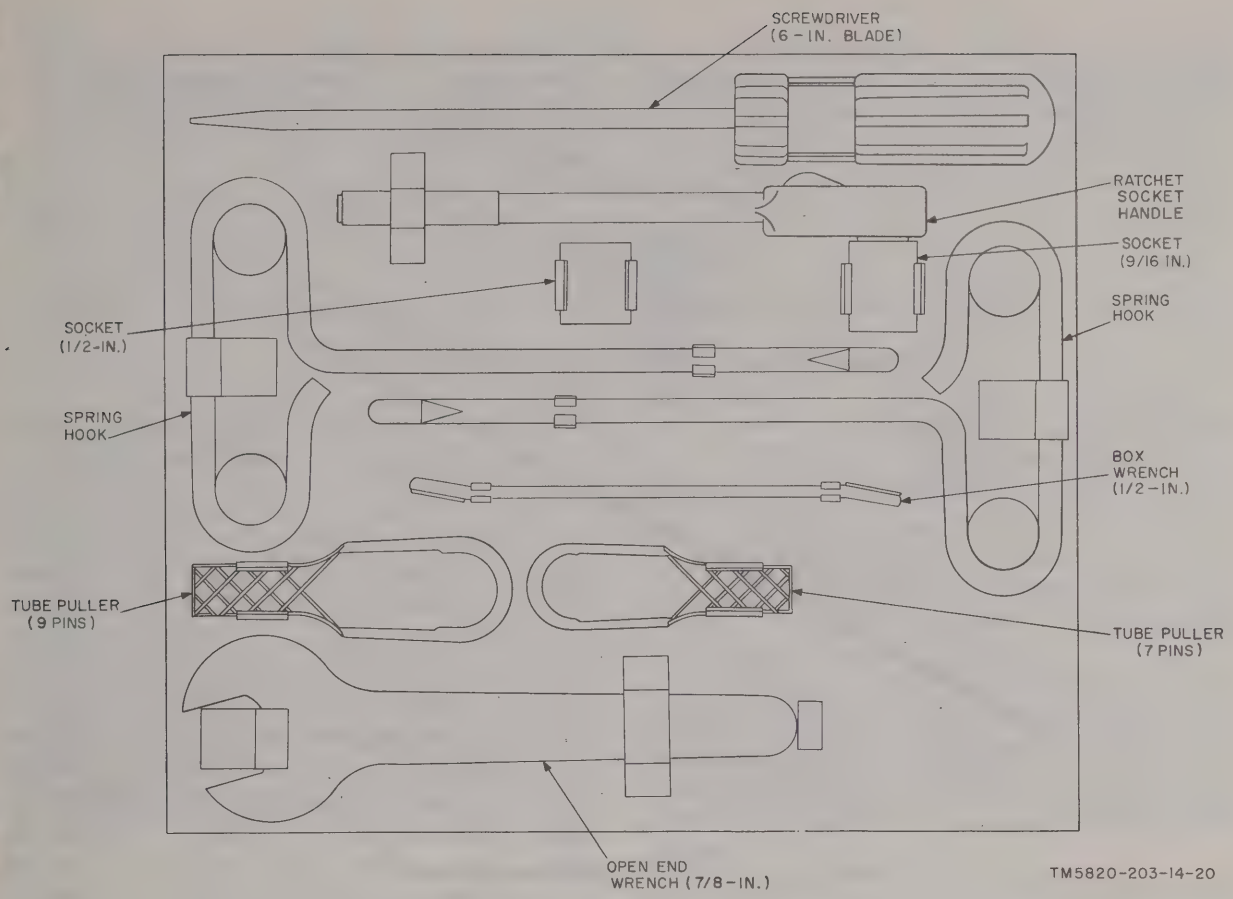

Figure 1–10. Tool mounting board.

mounted in racks along the roadside and curbside walls (fig. 1–3, 1–4, and 6–1) of the shelter facility. The operating equipment for each system includes one receiver, one transmitter, one power supply, and associated bandpass filters, amplifier, and amplifier-converters. The required antenna masts, antenna components, and radio frequency (rf) cable assemblies are also secured to the curbside and roadside walls. Components provided for B- and C-band operation are shown in the above-referenced figures.

b. Telephone Set TA–312/PT (TM 11–2155). One TA–312/PT (telephone set) is provided for intra-area voice communication. The telephone set, less its canvas case, is arranged for local-battery operation and is mounted on the front wall (B, fig. 6–1). A telephone cord (fig. 1–9) is used to connect the telephone set to the PHONE jack in the signal duct.

c. Intercommunication Station LS–147(*)/FI (TM 11–5830–221–12). The LS–147(*)/FI (intercom) is provided for two-way, nonprivate voice communication in a system that consists of other intercoms or equivalent equipments. The intercom is mounted on the front wall (B, fig. 6–1) and a telephone cord is used to connect it to the INTERCOM jack in the signal duct. The intercom is furnished as a component of the S–177(*)/MRC–54(V).

d. Wattmeter ME–82/U. One ME–82/U (A, fig. 6–1) is furnished for testing rf output power. Mounting facilities are furnished also for one Multimeter TS–352/U and one Electron Tube Test Set TV–7B/U, which are not furnished as part of the AN/MRC–54 (V); the TS–352/U and TV–7B/U must be requisitioned as separate items.

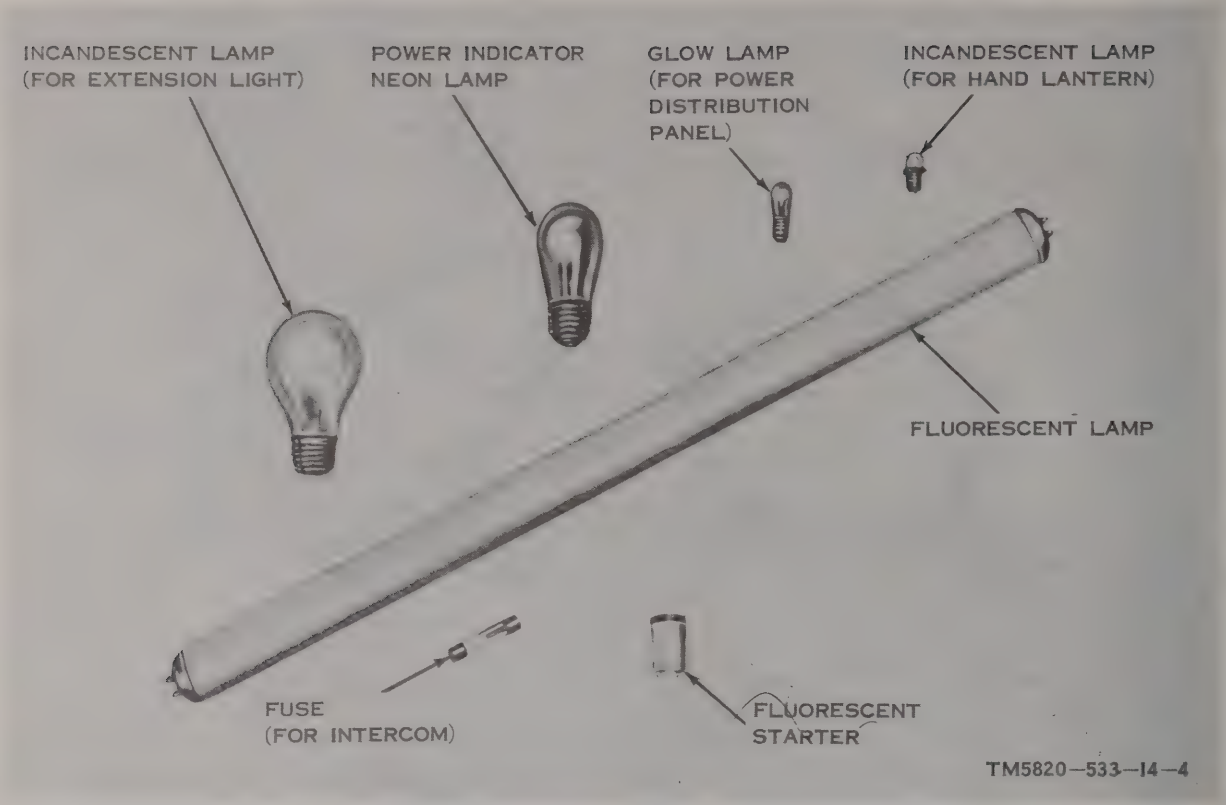

Figure 1–11. Shelter facility running spares.

CHAPTER 2

INSTALLATION

Section I. PREINSTALLATION PROCEDURES

2–1. Unpacking and Checking

a. Packing Data. For shipment, the AN/MRC–54(V) is packed in a reusable wooden crate (fig. 2–1). The shelter facility is anchored to eyebolts in the skid base of the crate and is blocked at the sides and ends with lumber. The skid base has side entries for handling with a forklift. The dimensions of the crate are 155 by 93 by 94 inches, the volume is 874 cubic feet, and the weight of the crated AN/MRC–54(V) is approximately 8,000 pounds (all equipment items installed in shelter facility) or approximately 3,000 pounds (S–177(*)/MRC–54(V) only, with equipment items packaged separately).

b. Removal of Contents. Select a location where the equipment may be unpacked without exposure to the elements.

(1) Unfasten the lag bolts with wrenches and remove the top, end, and side assemblies from the crate base (fig. 2–1).

Caution: **Be careful when handling tools, because the aluminum skin of the shelter can be damaged easily.**

(2) Detach the tiedowns from the eyebolts in the base of the crate. When cables or tiedown rods are used for anchoring, loosen the turnbuckles.

(3) Remove the wood blocking from the ends and sides of the shelter.

(4) Remove the shelter facility from the crate base. Use overhead lifting equipment whenever available; if it is not available, remove the headers from the crate base. Lift the shelter facility from both ends with forklifts, or drag it from the crate base by the towing eyes.

(5) Send the crate to a local storage area, if practicable. The crate may be reused for shipment of similar shelter facilities.

c. Checking Shelter Contents. Check the contents of the AN/MRC–54(V) against the packing list. If the packing list is not available, use the basic issue items list (appx II) to check the equipment that *probably* was packed.

d. Unpacking and Checking Separately Packed Equipment Components. If the equipment components for the AN/MRC–54(V) are packed separately, follow the unpacking instructions given in the appropriate technical manuals (appx I). After unpacking, check the equipment against the packing lists in the containers, if available. The tables of components or the basic issue items list in the appropriate technical manuals can be used, when packing lists are not available, to check the items that were *probably* packed.

Note: Install the shelter facility in a truck as described in paragraph 2–4*b before* installing the equipment components (para 2–2 and 2–3) if *all* of the following conditions apply:

(1) When received, the shelter facility and equipment components are packed separately.

(2) The AN/MRC–54(V) is to be operated from a truck.

(3) A lifting device, capable of lifting at least 1,600 pounds (but less than 6,500 pounds) is available.

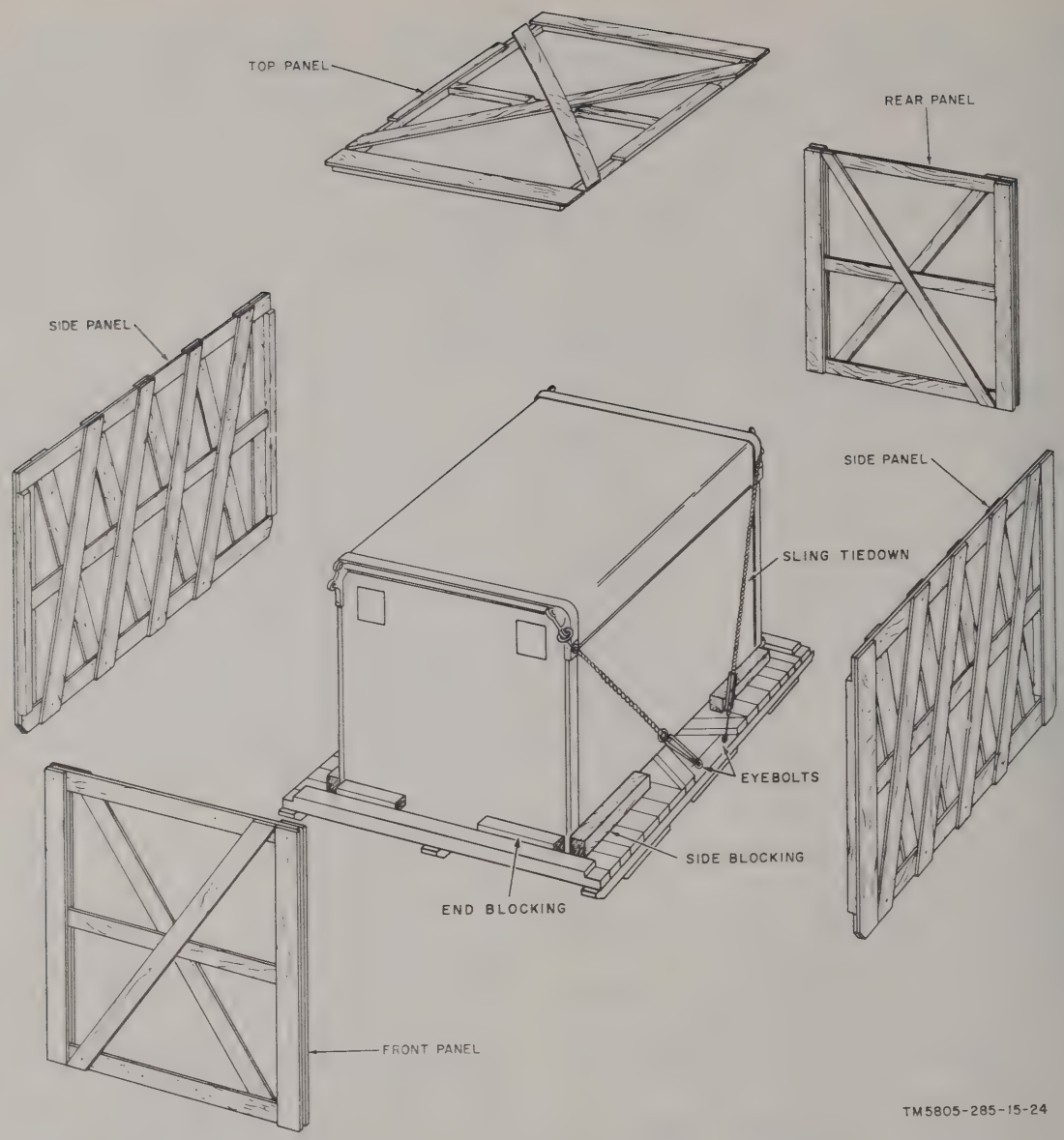

Figure 2–1. Packing diagram.

2–2. Installing Equipment Components

a. Preparation.

(1) Remove the power cable and ladder from the shelter facility (F, fig. 6–1).

(2) Ground the shelter facility (para 2–5).

(3) Connect ac power to the shelter facility (para 2–6).

(4) Turn on the lights and, if appropriate, the heater or exhaust blowers (para 2–7).

b. Installation of TA–312/PT.

(1) Remove the telephone set from its canvas case and install two Batteries BA–30 into the telephone set (TM 11–2155).

Note: If the mounting bracket in the shelter facility includes an L-shaped clamping arm (fig. 2-2), install the telephone set as described in (2) below; if the mounting bracket includes a hinged telephone clamp and a cable-type handset strap (B, fig. 6-1), install the telephone set as described in (3) below.

(2) Loosen the wingnut on the side of the clamping arm, turn the clamping arm downward, and remove the flathead screw and the round holding plate from the side of the mounting bracket.

(*a*) Insert the round holding plate into the buzzer recess of the telephone set, insert the telephone set into the mounting bracket, and use the flathead screw to secure the holding plate to the inner side of the mounting bracket.

(*b*) Raise the clamping arm to the clamping position, press it against the handset, and tighten the wingnut.

(3) Disconnect the handset strap and telephone clamp from their associated latches.

(*a*) Place the telephone set into the mounting bracket, remove the handset from the handset bracket, and use the telephone clamp to secure the telephone set firmly in the mounting bracket.

(*b*) Replace the handset into the handset bracket and fasten the handset strap to its associated latch.

(4) Connect the telephone cord to the binding posts of the telephone set and insert the plug of the telephone cord into the LB PHONE jack on the front wall of the shelter facility.

c. Installation of Radio Equipment.

(1) Install each receiver, transmitter, and power supply in the shelter facility (A and C, fig. 6-1) as follows:

(*a*) Remove the cover from the transit case and release the fasteners that secure the equipment chassis to the rack frame in the transit case. Slide the equipment chassis out of the rack frame as far as it will go, and then press the drawer stop levers and remove the chassis from the transit case.

(*b*) Use the spring hook (fig. 1-10) to disengage the retainer spring from the hook at each corner of the rack frame (fig. 2-3). Remove the rack frame from the transit case, insert it into the appropriate equipment mounting rack in the shelter facility, and secure it in place with the retainer springs from the transit case.

(*c*) Slide the equipment chassis into the rack frame and secure it in place with the fasteners.

(2) Refer to TM 11-5820-287-20 to determine the amplifier, amplifier-converter, and bandpass filters that are required for the desired operating frequencies. Install the selected equipment components into the transmitters and receivers. Store the unused amplifiers, amplifier-converters, and bandpass filters in the storage locations shown in A and C, figure 6-1. Use the procedure described in (1) above to install the unused components.

(3) Install the running spares drawers and Wattmeter ME-82/U at the locations shown in A, figure 6-1.

d. Interconnection of Radio Equipment. The signal duct of the shelter facility contains the wiring required to connect the various components to the SIGNAL AND POWER ENTRANCE box. The 115-volt ac supply is wired through the ac power duct from the POWER DISTRIBUTION PANEL and circuit breakers to receptacles at the components. Connect the operating components to the shelter facility wiring as described in (1) through (8) below.

(1) Connect separate black ground wires (from the signal duct) to the GND binding posts of Power Supply PP-685/TRC, Radio Transmitter T-302/TRC (transmitter), and Radio Receiver R-417/TRC (fig. 6-2).

Figure 2-2. Telephone set installed in mounting bracket.

(2) Connect the signal duct spiral-four leads to each receiver as follows:

Wire color	Binding post
White pair	XMTG
Black pair	REC
Black shield	GND

(3) Connect the duct coaxial RF cables from the signal duct to the ANTENNA jacks of each receiver and transmitter.

(4) Use an Electrical Special Purpose Cable Assembly CX-2253/U to connect the TRANSMITTER jack of each power supply to the POWER SUPPLY jack of the associated transmitter.

(5) Use an Electrical Special Purpose Cable Assembly CX-2252/U to connect the RECEIVER jack of each transmitter to the TRANSMITTER jack of its associated receiver.

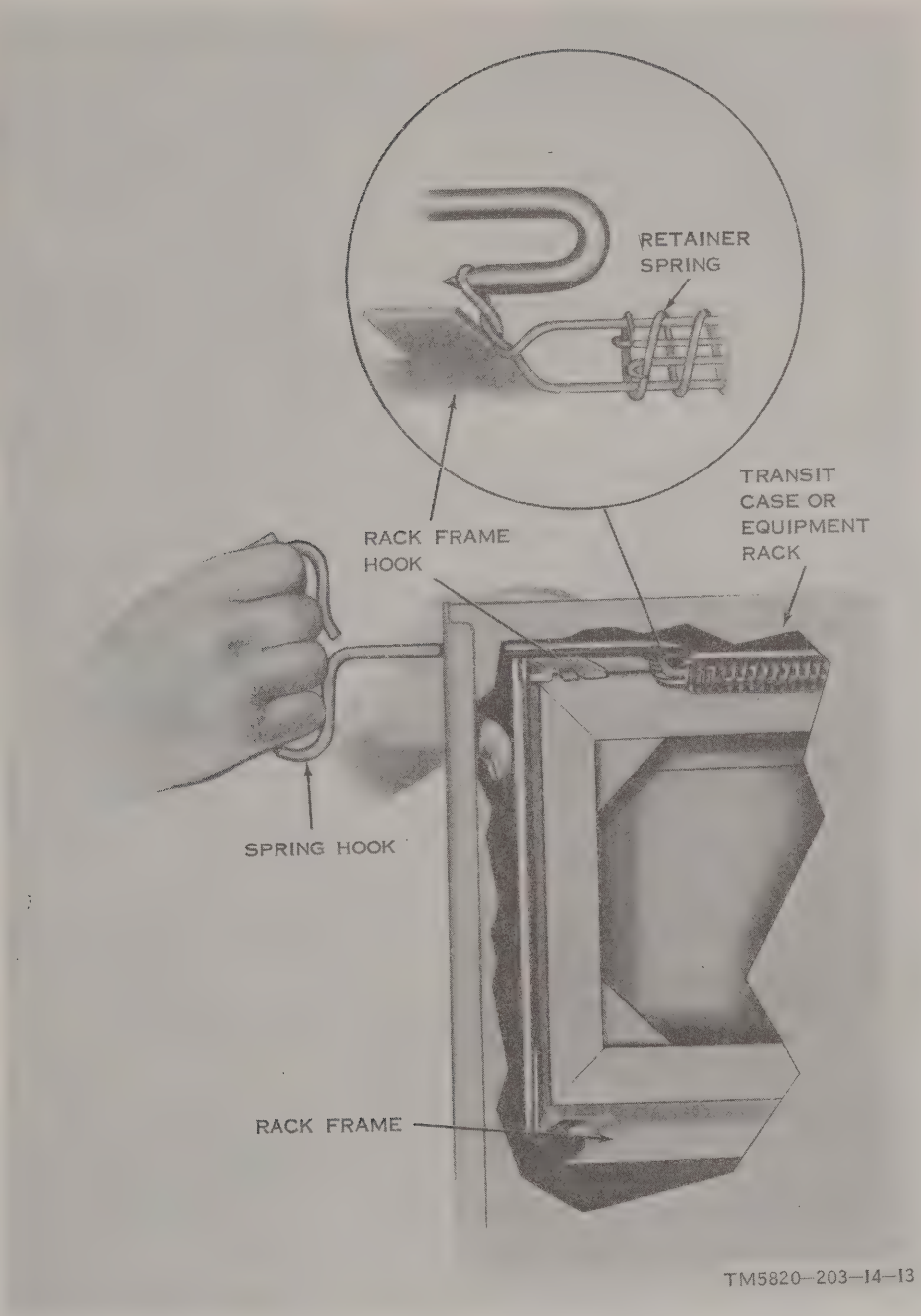

Figure 2–3. Use of spring hook to secure rack frame in equipment rack.

(6) Remove Handsets H–90/U from the storage cabinet and connect the plug of the cable attached to each Handset H–90/U to the handset jack on one of the receivers.

Caution: **Be sure that SYSTEM 1, 2, and 3 circuit breakers of the POWER DISTRIBUTION PANEL are at OFF before performing the procedures in (7) and (8) below.**

(7) Use an Electrical Power Cable Assembly CX-2256/U to connect the POWER jack of each receiver to its associated AN/TRC-24 receptacle in the ac power duct on the ceiling (D, fig. 6-1).

(8) Use an Electrical Power Cable Assembly CX-2258/U to connect the 115V AC INPUT jack on each power supply to its associated AN/TRC-24 receptacle in the ac power duct on the ceiling.

Storage of Antenna Components

The procedures below apply *only* to storage of components used for B-band and C-band operation. If other antenna components are used, select appropriate location in the shelter facility for each component and secure it in place in a manner that is convenient and that will prevent equipment damage.

a. Antenna Reflectors AT-414/TRC (fig. B and C, 6-1).

(1) Unfasten and release the two clamp holders from the reflector lower storage channel mountings in the shelter.

(2) Hold one folded reflector upright with the hinged side at the top.

(3) Place the hinges up in the ceiling channels of the reflector storage mounting and slide the upright reflector to the rear of the channels.

(4) Repeat the procedures given in (1) through (3) above for the second reflector except place the hinges of the reflector in the *lower* storage channel mountings.

(5) Follow the same procedure ((1) through (3) above) for the remaining reflectors.

(6) Replace the two clamp holders.

b. Antenna Reflector Supports AB-325/TRC

(1) Unfasten and open the six retaining clamps of the reflector supports storage holders in the shelter.

(2) Position the reflector supports as shown in A, figure 6-1.

(3) Close the retaining clamps and turn the fasteners to secure each reflector support in its mounting.

c. Mast Sections AB-332/G (A, fig. 6-1).

(1) Unfasten and remove the two retaining bars from the ceiling and floor storage rack holders.

(2) Place the nine mast section carriers upright in the holder, parallel to the rear wall with the carrying handles facing away from the left wall.

(3) Replace the retaining bars and turn the fasteners.

d. Radio Frequency Cable Assemblies CG-1030/U and Cable Reels RC-404/TR.

(1) Unfasten and remove the upper and lower retaining bars from the cable reel storage rack (A, fig. 6-1).

(2) Place one Cable Reel RC-404/TR in the upper section of the rack and one in the lower section.

(3) Replace the retaining bars and turn the fasteners.

(4) Unfasten and open the hinged holder clamp on the lower forward end of the antenna dipole retaining rack (C, fig. 6-1).

(5) Roll the third Cable Reel RC-404/TR into position against the rack.

(6) Close the hinged holder clamp and turn the fastener.

e. Antenna Dipoles AT-413/TRC (A, fig. 6-1).

(1) Unfasten and remove the four retaining bars from the lower middle section of the antenna dipole retaining rack in the shelter.

(2) Place the C-band dipoles upright into the allocated slot sections of the rack, extending sections at the top and parallel to the right wall. Store six C-band dipoles in each section.

(3) Replace the four retaining bars and turn the fasteners.

(4) Place the C-band dipole sections in the holding clips on the shelves of the storage cabinet.

f. Antenna Dipoles AT–412/TRC (A, fig. 6–1).

(1) Unfasten and remove the four retaining bars from the lower middle section of the antenna dipole retaining rack in the shelter.

(2) Place the B-band dipoles in the allocated slot sections of the rack as follows:

(*a*) Place the dipoles horizontally and parallel to the wall with the V-head of each positioned vertically.

(*b*) Arrange the dipole from the rear of the rack so that the V-head of the first B-band dipole is positioned towards the rear of the shelter.

(*c*) Arrange the second B-band dipole so that it is in the reverse position of the first.

(*d*) Install and arrange the other B-band dipoles so that their V-heads are alternately positioned to the rear and front of the shelter.

(3) Replace the two retaining bars and turn the fasteners.

(4) Place the B-band dipole sections in the holding clips on the shelves of the storage cabinet.

g. Stake Carrier (C, fig. 6–1).

(1) Unfasten and remove the retaining bar of the stake carrier storage mounting.

(2) Place the stake carriers upright and flat against the front wall, with the hammer side of the carrier facing away from the right wall.

(3) Secure the sledge hammer to one of the stake carriers.

(4) Replace the retaining bar and turn the fasteners.

h. Miscellaneous Antenna and Mast Components.

(1) Store the maintenance cables (part of Power Accessories Group OA–1676/GRC) in the storage cabinet (A, fig. 6–1).

(2) Store the Handsets H–90/U and Radio Frequency Cable Assemblies CG–1031/U in the storage cabinet.

(3) Install the tools (part of Antenna Group OA–1389/GRC and Power Accessories Group OA–1676/GRC) on the tool mounting board (fig. 1–10).

(4) Store all remaining miscellaneous items in either the accessories and spares cabinet or in the three Accessories Cases CY–1392/GRC.

(5) Secure the three Accessories Cases CY–1392/GRC in the positions shown in C, figure 6–1.

Section II. INSTALLATION PROCEDURES

2–4. Siting

The best operating site for the AN/MRC–54(V) is determined by the tactical situation, the antenna siting considerations, and other local conditions. Refer to TM 11–5820–287–20 for siting information.

Note: To install the AN/MRC–54(V) on the ground or on a truck, four men and a device capable of lifting either 1,600 pounds (shelter facility only) or 6,250 pounds (shelter facility with equipment installed) are required.

a. Ground Installation. When installed on the ground, the shelter facility should be placed on a firm, dry surface with good drainage; the site should be prepared and leveled. If possible, the shelter facility should be placed on concrete blocks or wooden beams, and positioned to facilitate connections to the SIGNAL AND POWER ENTRANCE box. If a generator set is used to provide ac power, it should be located approximately 75 feet away from the shelter to minimize fire hazard and generator noise interference.

b. Truck Installation.

(1) Use the sling center hooks (hook nearest turnbuckle) to connect the four sling assemblies to the four lifting eyes of the shelter (fig. 2–4). Connect the four sling hooks, at the

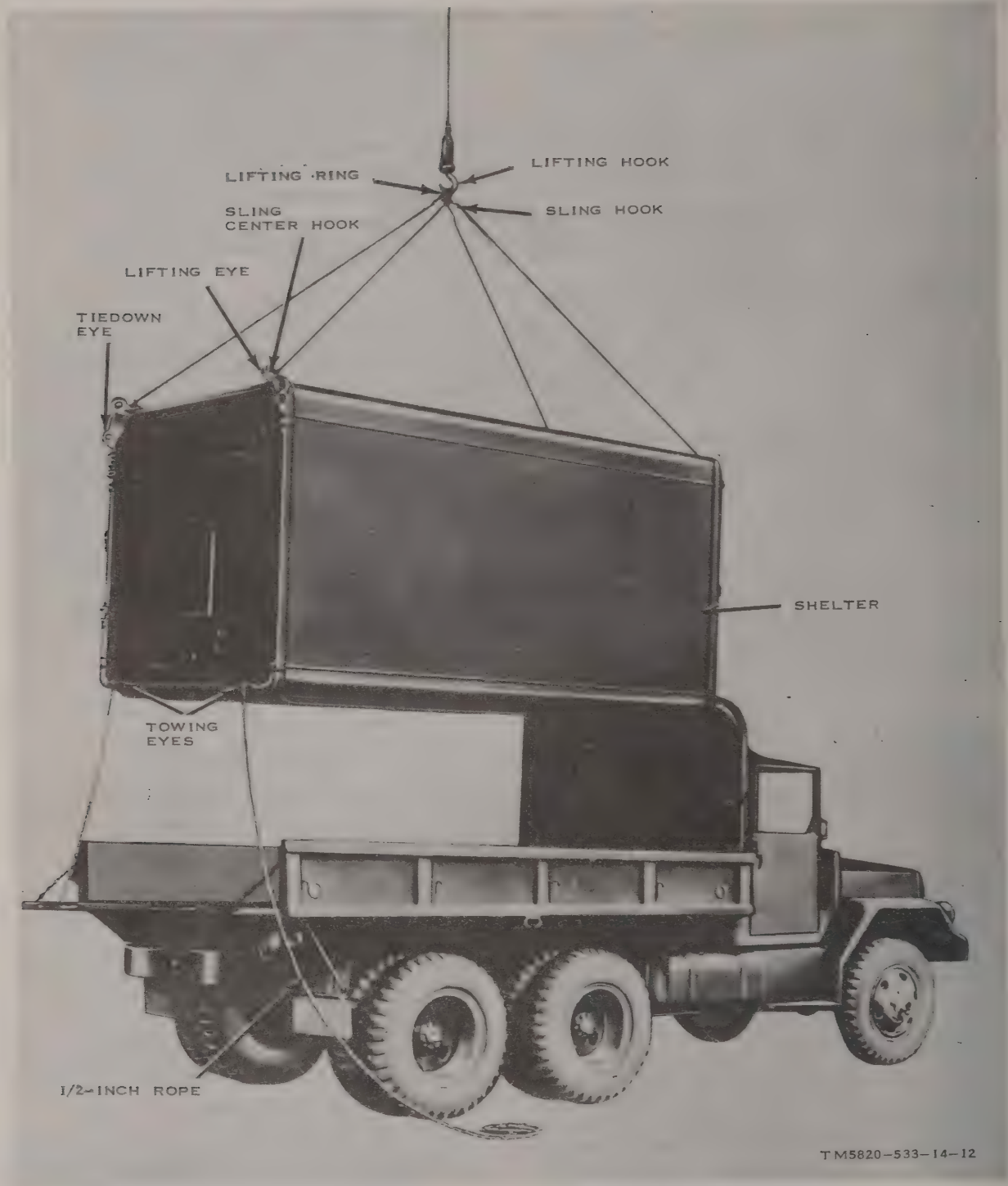

Figure 2-4. Lifting AN/MRC-54(V).

opposite end of the cables to the lifting ring, and place the lifting ring over the lifting hook of the lifting device.

(2) Tie a 1/2-inch rope (at least 15 feet long) to each rear towing eye.

Warning: **To avoid injury to personnel or damage to the equipment, only the personnel engaged in the actual loading operation should be permitted near the truck, lifting device, and shelter. To eliminate confusion, all instructions must come from the loading crew supervisor.**

(3) Lower the tailgate of the truck, make sure that all tools and equipment have been removed from the truck body, and slowly lift the shelter high enough to clear the body of the truck.

Note: The entrance door of the shelter must be at the rear of the truck, and the front end of the shelter must be flush against the front of the truck body.

Warning: **All personnel must remain clear of the truck while the shelter is being lowered onto the truck.**

(4) Position a man at the free end of the 1/2-inch ropes to guide the shelter, back the truck slowly into position under the shelter, and slowly lower the shelter onto the truck.

(5) Remove the lifting ring from the lifting hook and disassemble the lifting ring and the sling hooks. Remove the sling center hooks from the lifting eyes and the 1/2-inch ropes from the towing eyes. Raise and secure the truck tailgate.

(6) Install the two tiedown ring assemblies (part of sling assembly) above the center support of the two cargo bedside rails of the truck (A, fig. 2–5).

(7) At each side of the shelter, use the hook at the end farthest from the turnbuckle to hook each sling assembly to a tiedown eye of the shelter. Secure the sling hooks at the opposite end of the cables to the tiedown ring (B, fig. 2–5).

(8) Tighten all turnbuckles evenly by hand, and then turn each turnbuckle an additional one-half turn with a bar or rod inserted into the slot of the turnbuckle.

Caution: **Do not overtighten the turnbuckles.**

(9) After the truck is driven to the operating site, lower the tailgate to the *horizontal* position; then remove the ladder from the shelter and secure it to the left side of the tailgate.

c. Unloading Shelter. To unload the shelter, reverse the procedures given in *b* above.

2–5. Grounding

The AN/MRC–54(V) must be properly grounded *before* input power is connected. Select a grounding site (within 6 feet of the SIGNAL AND POWER ENTRANCE box) that is low and damp, and that will not interfere with the entrance door, field wires, antenna cables, or power cables.

a. Loosen and lift the cover of the SIGNAL AND POWER ENTRANCE box (fig. 1–3).

b. Use the cover support to secure the cover in the open position.

c. Remove the ground rod and the sledge hammer from their mountings in the shelter.

d. Remove any paint or grease from the ground rod.

e. Scoop out a small hole about 6 inches deep at the site selected.

f. Drive the ground rod into the hole until the top of the ground rod is approximately 3 inches above the *bottom* of the hole.

g. Saturate the ground around the rod with water to keep it moist.

h. Remove a 10-foot ground lead from the accessories and spares cabinet.

i. Connect one end of the ground lead to the ground rod, and the other end to the GRD terminal at the bottom of the SIGNAL AND POWER ENTRANCE box (fig. 1–6).

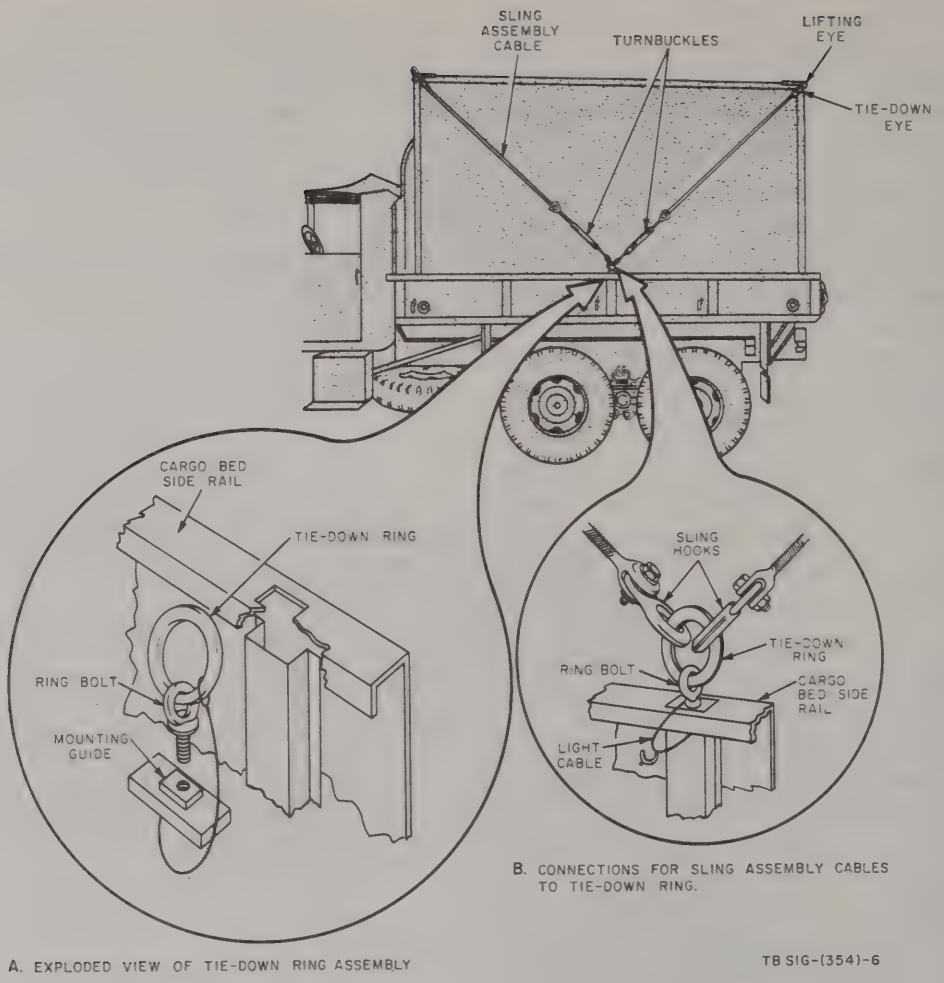

Figure 2–5. Securing AN/MRC–54(V) in truck.

j. If a generator set is used for supplying ac power, ground it in the same manner as the shelter.

2–6. Power Connections

Caution: **Grounding of connections (para 2–5) must be completed before power is connected to the AN/MRC–54(V).**

The 115-volt (±10 percent), 50-60 cycles per second (cps), single-phase power required for the AN/MRC–54(V) may be obtained from a generator set or a commercial power source. If a generator set is to provide power for the AN/MRC–54(V), connect ac power to the shelter facility as described in *a* and *b* below; otherwise, connect power as described in *a* and *c* below.

a. Preliminary Procedures.

(1) Make sure that all the shelter facility circuit breakers and equipment power switches are in their *off* positions.

(2) Remove the power cable assembly and cable reel from the shelter facility (F, fig. 6–1) and unwind the power cable assembly from the cable reel.

b. Connection to Generator Set.

(1) Connect one end of the power cable assembly to the right-hand POWER receptacle in the SIGNAL AND

POWER ENTRANCE box of the shelter facility (fig. 1–6).

(2) If the generator set includes an output connector that is compatible with a connector of the power cable assembly, connect the power cable connector to the output connector of the generator set; otherwise refer to the generator set technical manual and connect the red and white (neutral) and black (hot) leads of the power cable stub to appropriate output terminals of the generator set and connect the power cable assembly to the power cable stub.

c. Connection to Commercial Power Source.

(1) Turn off or disconnect the commercial power before making any connections.

(2) If the power source is a 120-volt, 50- or 60-cps, single-phase, two-wire source, connect the red and white wires of the power cable stub to the neutral wire, and connect the black wire of the power cable stub to the *hot* wire.

(3) If the power source is a 110- to 220-volt, 50- or 60-cps, single-phase (or two-phase), three-wire distribution system, connect the red and white wires of the power cable stub to the neutral terminal and the black wire to either of the two hot terminals of the source.

(4) If the power source is a 110- to 220-volt, 50- or 60-cps, three-phase, four-wire distribution system, connect the red and white wires of the power cable stub to the neutral terminal, and the black wire to the phase 1, phase 2, or phase 3 terminal.

(5) Connect the power cable stub to one end of the power cable assembly, and connect the other end of the power cable assembly to the right-hand POWER connector in the SIGNAL AND POWER ENTRANCE box.

2–7. Energizing Ac Circuits

a. If a generator set is used to supply the ac power, start the generator; if a commercial power source is used, apply power to the source terminals.

b. Operate the MAIN circuit breaker on the power distribution panel (fig. 1–7) to ON.

c. Operate the LIGHTS circuit breaker to ON and the FLUORESCENTS switch (E, fig. 6–1) to ON. Operate the NORMAL-BLACKOUT switch to NORMAL. If blackout conditions are required, operate the NORMAL-BLACKOUT switch to BLACKOUT.

d. Check the voltmeter (fig. 1–7); it should indicate 115 volts ±10. Check the ammeter; it should indicate less than 2 amperes.

e. Open the blower vents and the air filter cover on the outside of the shelter. Operate the BLOWER 1 and BLOWER 2 circuit breakers on the POWER DISTRIBUTION PANEL to ON to check operation of the blowers. If blower operation is not required, set the BLOWER circuit breakers to OFF.

2–8. Installation of Antenna Systems

***Warning:* During assembly and erection of the antenna systems, conform to all safety requirements of TB SIG 291. Injury or DEATH can result from failure to comply with all safety requirements.**

The AN/MRC–54(V) includes three antenna masts and sufficient antenna components to provide a separate antenna system for each of the three systems of radio equipment in the shelter facility. Select suitable antenna sites and assemble and erect the antennas as described in TM 11–5820–287–20. Connect the antenna rf cable assemblies to the appropriate ANTENNA connectors in the SIGNAL AND POWER ENTRANCE box (fig. 1–6).

2–9. Signal Circuit Connections

a. Intershelter Communication Connections. For local area communication, connect the external field-wire circuits to the appropriate

binding posts (A, B, LB PHONE, or INTERCOM) in the SIGNAL AND POWER ENTRANCE box (fig. 1–6).

b. Spiral-Four Cable Connections.

(1) *Repeater set operation.* If the AN/MRC–54(V) is to be operated as a radio repeater set, use Telephone Cable Assembly CX–1606/G (fig. 1–9) to interconnect the appropriate two of the three SYSTEM connectors in the SIGNAL AND POWER ENTRANCE box (fig. 1–6).

Note: The SYSTEM 1 connector in the SIGNAL AND POWER ENTRANCE box is associated with the left-hand group of radio equipment along the roadside wall of the shelter facility (A, fig. 6–1); the SYSTEM 2 connector is associated with the right-hand group of equipment; and the SYSTEM 3 connector is associated with the radio equipment mounted against the surbside wall (C, fig. 6–1).

(2) *Operation as terminal set.* If the AN/MRC–54(V) is to be used as a radio terminal set for operation with telephone carrier terminal equipment, use spiral-four cables (not furnished as part of the AN/MRC–54 (V)) to connect the appropriate SYSTEM connectors in the SIGNAL AND POWER ENTRANCE box to the telephone carrier terminal equipment.

2–10. Equipment Checks and Adjustments

a. Heater. Connect the heater power cord to the adjacent HEATER receptacle. Operate the HEATER circuit breaker on the POWER DISTRIBUTION PANEL to ON and operate the heater controls to check the heater. If continued operation of the heater is not required, set the heater ON-OFF switch and the HEATER circuit breaker to OFF.

b. Radio Equipment.

(1) Check for the presence of each of the cable assemblies and duct ground wires and cable shown in figure 6–5. Check each spiral-four and ground connection for tightness. Check each cable connector for proper seating and tightness.

(2) Perform the radio equipment installation adjustments as described in TM 11–5820–287–20.

CHAPTER 3

OPERATING INSTRUCTIONS

3-1. Types of Operation

(fig. 1-2)

The AN/MRC-54(V) normally is operated as a radio repeater between radio terminals. However, it also may be used as a radio terminal when connected to telephone terminal equipment.

3-2. Operating Controls and Indicators

This paragraph identifies and describes the function of each of the controls and indicators of Shelter, Electrical Equipment S-177(*)/MRC-54(V). Refer to the appropriate equipment technical manuals (appx I) for information concerning the controls and indicators that are part of the radio equipment, intercom, and telephone set.

a. POWER DISTRIBUTION PANEL (fig. 1-7).

Control or indicator	Function and description
MAIN circuit breaker	Two ganged 50-ampere circuit breakers used as on-off switch and overload protection of ac input power circuitry.
Tributary circuit breakers:	Twelve two-position circuit breakers used to provide on-off control and overload protection of tributary circuits listed below.
1—LIGHTS	Controls ac power to lights.
2—HEATER	Controls ac power to heater receptacle.
3—AN/TRC-24 SYSTEM 1	Controls ac power to AN/TRC-24 NO. 1 receptacles (D, fig. 6-1).
4—AN/TRC-24 SYSTEM 2	Controls ac power to AN/TRC-24 NO. 2 receptacles (D, fig. 6-1).
5—AN/TRC-24 SYSTEM 3	Controls ac power to AN/TRC-24 NO. 3 receptacles (D, fig. 6-1).
6—CONVENIENCE RECEPTACLE	Controls ac power to convenience receptacles J-24 and J-25.
7—BLOWER 1	Controls ac power to blower No. 1.
8—BLOWER 2	Controls ac power to blower No. 2.
9—INTERCOM	Controls ac power to INTERCOM receptacle.
10, 11, and 12 SPARE	Spare circuit breakers available for use as required.
VOLTAGE meter (voltmeter)	Indicates ac voltage input to shelter facility (0- to 150-volt range).
CURRENT meter (ammeter)	Indicates current being used by AN/MRC-54(V) (0- to 50-ampere range).

b. Miscellaneous Switches and Indicators.

Control or instrument	Function and description
NORMAL-BLACKOUT switch (E, fig. 6–1)	Two-position switch that controls all lighting in shelter as follows: Sw pos — Function NORMAL — Permits fluorescent lights to be controlled by light switches in ac power duct. BLACKOUT — Permits door microswitch to control all fluorescent lights.
Door microswitch	Controls all fluorescent lights when NORMAL-BLACKOUT switch is at BLACKOUT. (When door is opened, lights go out; when door is closed, lights go on.)
FLUORESCENTS switch	Two-position ON-OFF switch that controls six fluorescent lights.
FLUORESCENTS switch (B, fig. 6–1)	Two-position ON-OFF switch that controls fluorescent light above table.
NEON switch (B, fig. 6–1)	Two-position ON-OFF switch that controls neon lamp.
Neon lamp	Provides small amount of illumination in blackout curtained area.

3–3. Starting, Operating, and Stopping Procedures, Radio Equipment

Energize the shelter facility ac circuits as described in paragraph 2–7. Perform the starting, tuning, operating, and stopping procedures of the radio equipment in the AN/MRC–54(V) as described in TM 11–5820–287–10, except omit the procedures pertaining to Transformer, Power, Fixed Autotransformer TF–167/TRC (not furnished as part of AN/MRC–54(V)). When ac power is to be applied to the system 1, 2, or 3 radio equipment, operate the appropriate circuit breaker at the POWER DISTRIBUTION PANEL to ON (fig. 1–7).

3–4. Operation of Shelter Facility Components

Follow the procedures given below to place the shelter facility components into operation.

a. Electric Heater.

(1) Plug the power cord into the HEATER receptacle.

(2) Operate the heater controls as described on the instruction plate of the heater.

b. Intercommunication Station LS–147(*)/FI (fig. 1–6).

(1) Plug the power cord into the INTERCOM receptacle.

(2) Operate the OFF-SEND switch to 5 (approximately midpoint). The glowlamp will light.

(3) Operate the PRESS-TO-TALK switch and speak into the speaker-microphone on the front panel; replace the PRESS-TO-TALK switch to receive.

Note: The OFF-SEND switch does not have to be *turned on* to receive a call.

(4) Adjust the RECEIVE control to regulate the volume of incoming calls.

***Caution:* Before operating the blowers, open the airfilter cover in the shelter door and the blower vent covers on the front of the shelter.**

c. Exhaust Blowers. Check to be sure the blower vents are open and operate the BLOWER 1 and BLOWER 2 circuit breakers (fig. 1–7) to ON as desired.

3–5. Operation Under Adverse Climatic Conditions

The AN/MRC–54(V) has been designed to operate in extremely hot and cold climates. The shelter offers complete protection from the

elements for personnel and equipment; however, when the SIGNAL AND POWER ENTRANCE box (fig. 1–3) is exposed to adverse conditions, the following precautions are necessary.

a. Cold Climates. Extreme cold causes cables and wires to become hard, brittle, and difficult to handle. Be careful when handling the cables and connecting them to the shelter so that kinks and unnecessary loops will not result in permanent damage. Make sure that binding posts and cable receptacles on the outside of the shelter are free of frost, snow, and ice. Replace the covers on the receptacles, and close the cover on the SIGNAL AND POWER ENTRANCE box when the box is not in use. Lower the folding side panels when the SIGNAL AND POWER ENTRANCE box cover is open. Replace the connector cover as soon as a cable is disconnected. Never drag or place an open connector in the snow.

b. Hot Climates. In hot, dry climates, connectors, receptacles, and binding posts are subject to damage from dirt and dust. Replace the covers on the connectors and receptacles and close the cover on the SIGNAL AND POWER ENTRANCE box when the box is not in use. Lower the folding side panels when the SIGNAL AND POWER ENTRANCE box is open. Never place an open connector on the ground.

c. Warm, Damp Climates. In warm, damp climates, the equipment is subject to damage from moisture and fungi. Wipe all moisture and fungi from the exterior of the equipment with a lint-free cloth.

CHAPTER 4

MAINTENANCE INSTRUCTIONS

Section I. OPERATOR'S MAINTENANCE

4–1. Scope of Operator's Maintenance

The maintenance duties assigned to the operator of the AN/MRC–54(V) are listed below, together with a reference to the paragraphs covering the specific maintenance functions. The duties assigned do not require tools or test equipment other than those issued with the set.

a. Daily preventive maintenance checks and services (para 4–4).

b. Cleaning and touchup painting (para 4–5).

c. Operator's troubleshooting (para 4–6).

d. Removal and replacement procedures (para 4–7).

4–2. Preventive Maintenance, General

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. Systematic Care. The procedures given in this paragraph and in paragraphs 4-3 through 4-5 cover routine systematic care and cleaning essential to proper upkeep of this equipment.

b. Preventive Maintenance Checks and Services. The operator's preventive maintenance checks and services chart (para 4–4) outlines functions to be performed each day. These checks and services are to maintain Army electronic equipment in a combat-serviceable condition; that is, in good general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the chart indicates what to check, how to check, and the normal conditions; the *References* column lists the illustrations, paragraphs, or manuals that contain detailed repair or replacement procedures. If the defect cannot be remedied by the operator, higher category of maintenance or repair is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38–750.

4–3. Operator's Preventive Maintenance Checks and Services Periods

Preventive maintenance checks and services are required on a daily basis or under the special following conditions.

a. When the AN/MRC–54(V) is first installed.

b. Prior to preparing the AN/MRC–54(V) for shipment.

c. At least once each week if the AN/MRC–54(V) is not in daily use.

4–4. Operator's Daily Preventive Maintenance Checks and Services Chart

Note: If the AN/MRC–54(V) is in continuous use, perform *only those items that do not interfere with the operation of the equipment.*

Sequence No.	Item to be inspected	Procedure	References
		Exterior	
1	Shelter skin	Check for skin punctures, tears, or open seams which would permit moisture to enter the shelter wall.	TB SIG 354.
2	Grounding system	*a.* Check for proper installation of grounding system.	*a.* Para 2–5.
		b. Check for (and tighten) loose ground lead connections.	*b.* None.
3	Sling assembly (truck installation).	Check sling assembly; it should be tight.	Para 2–4.
4	SIGNAL AND POWER ENTRANCE box.	*a.* Check for (and remove) dirt, grease, and moisture from around binding posts and receptacles.	*a.* Para 4–5.
		b. Check for presence of dust covers and receptacle covers on all unused receptacles (fig. 1–6).	*b.* None
5	Power and signal cable assemblies.	*a.* Check for and remove grease, oil, and dirt from cable insulation and connectors.	*a.* Para 4–5.
		b. Check tightness of all locking rings that secure cables to receptacles (fig. 1–6).	*b.* None.
		c. Check cable grips; they should be positioned to relieve strain of cable weight.	*c.* None.
		d. Check for presence of connector covers and dust caps on unused cables (fig. 1–6).	*d.* None.
6	Signal and power cables.	*a.* Check for (and tighten) any loose connections at all plugs and connectors.	*a.* None.
		b. Check to be sure that insulation is not cut. Remove all kinks and strain.	*b.* None.
7	Walls, ceiling, and floor.	Check for holes, open seams, or signs of leakage or water seepage.	TB SIG 354.
8	Batteries and hand lantern.	Check batteries or bulb if hand lantern fails to light (E, fig. 6–1).	
		Wind and set to correct time.	None.
		Operation	
9	Knobs, dials, and switches.	While making operational checks (items 11 through 26), make sure that operation of each knob, dial, and switch is free from internal and external binding Para 3–2 and applicable TM's (appx I).	
10	MAIN circuit breaker	Operate to ON and observe voltmeter indication. Voltmeter should indicate 115 volts ±10% (fig. 1–7).	
11	LIGHTS circuit breaker.	Operate to ON and note that glow-lamp No. 1 lights (fig. 1–7).	Para. 4–6.
12	FLUORESCENTS switch	Operate to ON and note that fluorescent lamps light (E, fig. 6–1).	Para. 4–6.
13	FLUORESCENTS and NEON switch.	Operate to ON and note that fluorescent light above table and neon light above door light (fig. 6-1).	Para. 4–6.
14	Ammeter	Check indication; it should be approximately 1.5 amperes (fig. 1–7).	Para. 4–6.
15	Door microswitch	Set NORMAL-BLACKOUT switch to BLACKOUT, open shelter door, and note that fluorescent lamps are extinguished.	Para. 4–6.
16	NORMAL-BLACKOUT switch.	Operate to NORMAL and note that fluorescent lamps light when door is open or closed (E, fig. 6–1).	Para. 4–6.
17	BLOWER 1 circuit breaker.	Open blower vents and air filter cover. Operate BLOWER 1 circuit breaker to ON, glowlamp No. 7 should light and blower No. 1 should operate (B, fig. 6–1).	Para. 4–6.
18	BLOWER 2 circuit breaker.	Operate to ON, glowlamp No. 8 should light and blower No. 2 should operate (B, fig. 6–1).	Para. 4–6.
19	HEATER circuit breaker.	Operate to ON, note that glowlamp No. 2 lights (fig. 1–7).	Para. 4–6.

Sequence No.	Item to be inspected	Procedure	References
20	Heater controls	*a.* Operate for air circulation only. Note that cool air is expelled from front of heater (See instruction plate on heater).	*a.* Para. 4–6
		b. Operate for heat and air circulation. Note that circulated air is warm.	*b.* Same as *a* above.
		c. Adjust temperature control. Note that heating stops when desired temperature has been reached.	*c.* Same as *a* above.
21	CONVENIENCE RECEPTACLE and SPARE 10, 11, and 12 circuit breakers.	Operate to ON. Note that glowlamps No. 6, 10, 11, and 12 light (fig. 1–7).	Para. 4–6.
22	AN/TRC–24 SYSTEM 1; 2, and 3 circuit breakers.	Operate to ON. Note that glowlamps No. 3, 4, and 5 light (fig. 1–7).	Para. 4–6.
23	Radio equipment	Performs daily preventive maintenance checks and services.	TM 11–5820–287–10.
24	INTERCOM circuit breaker.	Operate to ON. Note that glowlamp No. 9 lights (fig. 1–7).	Para. 4–6.
25	LS–147(*)/FI	Perform daily preventive maintenances checks and and services.	TM 11–5830–221–12.
26	TA–312/PT	Perform daily preventive maintenance checks and services.	TM 11–2155.

4–5. Cleaning and Touchup Painting

Warning: **Cleaning Compound (FSN 7930–395–9542) is flammable and its fumes are toxic. Do not use near a flame; provide adequate ventilation.**

a. Cleaning. Use a dry, clean, lint-free cloth or brush to remove dust and dirt. If necessary, moisten the cloth or brush with Cleaning Compound (Federal stock No. 7930–395–9542) to remove grease, oil, and ground-in dirt and dust. After cleaning, wipe dry with a cloth.

b. Touchup Painting. Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of the proper paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in SB 11–573 and TB SIG 364.

Caution: **Paint per MIL-E-46061 (MO) has been used on the exterior of some shelters to maintain a lower inside temperature when the shelter is located in the direct rays of the sun. Before doing any touchup painting on the shelter exterior, check for a caution notice inside the shelter door. Do not use any other type of paint for touchup if the shelter has been painted with paint per MIL-E-46061 (MO).**

4–6. Operator's Troubleshooting

a. General. The symptoms in the operator's troubleshooting chart (*b* below) are based on the operational checks in the daily preventive maintenance checks and services chart (para 4–4). To troubleshoot the AN/MRC–54(V), perform all functions, starting with item No. 10 in the operator's daily preventive maintenance checks and services chart, and proceed until an abnormal condition is observed. When an abnormal condition is observed, note the item number and turn to the same item number in the troubleshooting chart below. Perform the checks and corrective measures indicated in the troubleshooting chart. If the corrective measures do not result in correction of the trouble, higher level maintenance is required.

b. Operator's Troubleshooting Chart.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
10.	*a.* Voltmeter indicates 0 volt.	*a.* Trouble may be: (1) Poorly seated power cable connector.	*a.* Corrective measure: (1) Check seating of power cable connector in SIGNAL AND POWER ENTRANCE box (fig. 1–6)
		(2) No. 115-volt ac input.	(2) Check power source (para 2–6).
		(3) Defective shelter power circuitry.	(3) Higher level maintenance required.
	b. Voltage indication is abnormally high or low.	*b.* Defective power source.	*b.* Check power source para 2–6).
11	LIGHTS glowlamp fails to light.	*a.* Defective glowlamp No. 1.	*a.* Replace glowlamp (para 4–7).
		b. Defective POWER DISTRIBUTION PANEL.	*b.* Higher level maintenance required.
12	All six aisle fluorescent lamps fail to light.	*a.* Defective lamps.	*a.* Replace fluorescent lamps (para 4–7).
		b. Defective starters.	*b.* Replace starters (para 4–7).
		c. Defective FLUORESCENTS switch or POWER DISTRIBUTION PANEL.	*c.* Higher level maintenance required.
13	Front fluorescent light or neon light fails to light.	*a.* Defective lamp.	*a.* Replace lamp.
		b. Defective fluorescent lamp starter.	*b.* Replace starter.
		c. Defective shelter power circuitry.	*c.* Higher level maintenance required.
14	*a.* Ammeter indicates 0 ampere.	*a.* Defective POWER DISTRIBUTION PANEL.	*a.* Higher level maintenance required.
	b. Ammeter indication is is abnormally high.	*b.* One or more circuit breakers Other than MAIN and LIGHTS circuit breakers at ON.	*b.* Operate all circuit breakers except MAIN and LIGHTS circuit breakers to OFF and check ammeter. If indication is still abnormally high, operate MAIN and LIGHTS circuit breakers to OFF and request higher level maintenance.
15	Fluorescent lamps are not extinguished when door is opened.	Defective door microswitch or NORMAL-BLACKOUT switch	Higher level maintenance required.
16	Fluorescent lamps fail to light.	Defective door microswitch or NORMAL-BLACKOUT switch.	Higher level maintenance required.
17	*a.* BLOWER 1 glowlamp fails to light.	*a.* Following may be defective: (1) Glowlamp No. 7.	*a.* Corrective measure: (1) Replace glowlamp (para 4–7).
		(2) POWER DISTRIBUTION PANEL	(2) Higher level maintenance required.
	b. Blower No. 1 fails to operate.	*b.* Defective blower.	*b.* Higher level maintenance required.
18	*a.* BLOWER 2 glowlamp fails to operate.	*a.* Following may be defective: (1) Glowlamp No. 8.	*a.* Corrective measure: (1) Replace glowlamp (para 4–7).
		(2) POWER DISTRIBUTION PANEL	(2) Higher level maintenance required.
	b. Blower No. 2 fails to operate.	*b.* Defective blower.	*b.* Higher level maintenance required.

b. Operator's Troubleshooting Chart (continued).

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
19	HEATER glowlamp fails to light.	*a.* Defective glowlamp No. 2.	*a.* Replace glowlamp (para 4–7).
		b. Defective POWER DISTRIBUTION PANEL.	*b.* Higher level maintenance required.
20	*a.* No air is expelled from	*a.* Defective heater.	*a.* Replace heater. Higher level maintenance required for defective heater.
	b. Air is not heated.	*b.* Defective heater.	*b.* Replace heater. Higher level maintenance required for defective heater.
	c. Heater continues to heat after desired temperature has been reached.	*c.* Defective heater.	*c.* Replace heater. Higher level maintenance required for defective heater.
21	CONVENIENCE receptacle or SPARE 10, 11, or 12 glowlamp fails to light.	*a.* Defective glowlamp. *b.* Defective power distribution panel.	*a.* Replace glowlamp (para 4–7). *b.* Higher level maintenance required.
22	AN/TRC–24 SYSTEM 1, 2, or 3 glowlamp fails to light.	*a.* Defective glowlamp No. 3, 4, or 5.	*a.* Replace glowlamp (para 4–7).
		b. Defective POWER DISTRIBUTION PANEL.	*b.* Higher level maintenance required.
23	Radio equipment fails to operate properly.	Defective radio equipment.	Refer to TM 11–5820–287–10 and make authorized repairs only.
24	INTERCOM glowlamp fails to light.	Defective glowlamp No. 9	Replace glowlamp (para 4–7).
25	LS–147(*)/FI fails to operate properly.	LS–147(*)/FI defective.	Refer to TM 11–5830–221–12 and make authorized repairs only.
26	TA–312/PT fails to operate properly.	*a.* Weak or defective Batteries BA–30. *b.* Defective TA–312/PT.	*a.* Replace batteries (TM 11–2155). *b.* Higher level maintenance required.

4–7. Operator's Removal and Replacement Procedures

a. Shelter Facility Replacement Parts. The only shelter facility parts authorized for replacement by the operator are the fluorescent lamps, lamp starters, power distribution panel glow-lamps, neon lamp, and the hand lantern and extension light incandescent lamps. The procedures for removal and replacement of all the above items (except the power distribution panel glowlamps) are evident upon inspection. To replace a glowlamp in a POWER DISTRIBUTION PANEL of the S–177E/MRC–54 (V), press the glowlamp inward and turn it counterclockwise one-fourth turn. To replace a glowlamp in all other models of the shelter facility, unscrew the glowlamp from the lampholder.

b. Communication Equipment Replacement Parts. Refer to TM 11–5820–287–10, TM 11–5830–221–12, and TM 11–2155 for instructions for the removal and replacement of the operator's replacement parts of the radio equipment, intercom, and telephone set, respectively.

Section II. ORGANIZATIONAL MAINTENANCE

4–8. Scope of Organizational Maintenance

Organizational maintenance consists of specific authorized preventive and corrective maintenance procedures (*a* and *b* below).

a. Organizational Preventive Maintenance. This maintenance is performed monthly and quarterly; the specific procedures are described in paragraphs 4–9 and 4–10. If the AN/

MRC-54(V) is truck-mounted, schedule the preventive maintenance checks concurrently with the periodic service schedule for the truck.

b. Corrective Maintenance. Authorized organizational corrective maintenance procedures include organizational troubleshooting (para 4-11 and 4-12) and organizational repair procedures (para 4-13 through 4-18). If performance of the authorized corrective maintenance procedures does not correct a defective AN/MRC-54(V), higher level maintenance is required.

c. Maintenance Records and Reports. Records and reports of preventive and corrective maintenance must be made in accordance with procedures given in TM 38-750.

d. Tools, Test Equipment, and Repair Parts. The tools and test equipment not issued as part of the AN/MRC-54(V) but required for its organizational maintenance are listed in appendix II. Additional tools, furnished as part of the AN/MRC-54(V) and required for organizational maintenance, are listed in appendix III. Refer to appendix III for a list of replacement parts authorized for organizational maintenance.

e. Touchup Painting. Remove rust and corrosion from metal surfaces by lightly sanding the surfaces with fine sandpaper. Brush two thin coats of the proper paint on the bare metal. Refer to the applicable cleaning and refinishing instructions given in SB 11-573 and TB SIG 364.

***Caution:* Paint per MIL-E-46061 (MO) has been used on the exterior of some shelters to maintain a lower inside temperature when the shelter is located in the direct rays of the sun. Before doing any touchup painting on the shelter exterior, check for a caution notice inside the shelter door. Do not use any other type of paint for touchup if the shelter has been painted with paint per MIL-E-46061 (MO).**

4-9. Organizational Monthly Preventive Maintenance Checks and Services

a. General. Perform the maintenance functions indicated in the monthly preventive maintenance checks and services chart (*b* below) once each month. A month is defined as approximately 30 calendar days of 8-hour-per-day operation. If the equipment is operated 24 hours per day, the monthly preventive maintenance checks and services should be performed at 10-day intervals. Adjustment must be made for any unusual operating conditions. Equipment maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance checks and services performed on it. Equipment in limited storage (requires service before operation) does not require monthly preventive maintenance.

b. Organizational Monthly Preventive Maintenance Checks and Services Chart.

Sequence No.	Item to be inspected	Procedure	References
		Exterior	
1	Shelter skin and hardware.	Check painted surfaces; use touchup paint where paint is blistered, pitted, or flaking, and on bare metal spots.	Para 4-8*e* and TB SIG 354.
2	Grounding system	Clean ground lug connections.	Para 2-5.
3	Sling assembly	Clean and paint bare metal parts.	Para 4-8*e*.
4	Movable parts and door.	*a.* Clean and paint bare metal parts.	*a.* Para 4-8*e*.
		b. Tighten loose screws and bolts.	*b.* None.
		c. Lubricate.	*c.* TB SIG 354.
		d. Clean air filter.	*d.* E, fig. 6-1.
		e. Apply gasket cement on loose gaskets.	*e.* None.
5	SIGNAL AND POWER ENTRANCE box.	*a.* Remove corrosion from binding posts.	*a.* Fig. 6-1.
		b. Repair insulation cuts and abrasions with electrical insulation tape.	*b.* None.
		c. Inspect layout of cables and relocate if necessary to prevent damage by or hazard to vehicles and pedestrians.	*c.* None.

Sequence No.	Item to be inspected	Procedure	References
		Interior	
6	Signal and power cables.	*a.* Check tightness of screws and clamps that secure wires to terminals.	*a.* None.
		b. Repair insulation cuts and abrasions with electrical insulation tape.	*b.* None.
		c. Cover disconnected bare wire with electrical insulation tape.	*c.* None.
		d. Polish metal plugs on telephone cords.	
7	Signal, power, and lighting system ducts.	Tighten loose screws, bolts, and clips. Repair or replace defective switches, switchplates, outlets, receptacles, and jacks.	None.
8	Lighting system	*a.* Tighten screws and nuts that secure lighting fixtures, lights, and parts on POWER DISTRIBUTION PANEL.	*a.* None.
		b. Replace defective or missing parts in lighting system and POWER DISTRIBUTION PANEL.	*b.* Para 4–16.
9	Walls, ceiling, and floor.	*a.* Clean and paint bare metal spots.	*a.* Para 4–8*e*.
		b. Check for skin punctures and cracked seams.	*b.* TB SIG 354.
10	Cabinet and storage drawers.	Repair or replace broken doors, latches, and handles.	None.
11	Equipment mountings.	*a.* Tighten all loose bolts, nuts, screws, and clamps that secure equipment, racks, frames, shelves, braces, clamps, and mounting hardware. Replace missing bolts, nuts, etc.	*a.* None.
		b. Make sure that equipment mounting racks, frames, braces, shelves, and clamps are not bent, broken, or out of shape to endanger personnel or equipment.	*b.* None.
12	POWER DISTRIBUTION PANEL.	Repair or replace defective parts.	Para 4–16.
13	Batteries and hand lantern.	Remove dirt and corrosion from battery compartment, and replace batteries that show signs of swelling, leakage, or corrosion.	E, fig. 6–1.
14	Exhaust blowers	*a.* Lubricate motor with Lubricating Oil, General Purpose (PL-SPECIAL MIL-L-649) or Lubricating Oil, Internal Combustion Engine (OE-10 MIL-L–2104).	*a.* None.
		b. Clean motor and fan housing.	*b.* Para 4–5.
		c. Repair or replace defective parts.	*c.* Para 4–15.
15	Blackout curtain	*a.* Tighten screws that secure track fixture to ceiling.	*a.* None.
		b. Repair or replace if torn, ripped, or frayed.	*b.* None.
16	Electric heater	*a.* Clean inside and outside of case.	*a.* Para 4–5.
		b. Repair or replace defective parts.	*b.* Para 4–14.
17	Clock	Replace if correct time cannot be maintained.	None.
18	Equipment performance.	*a.* Check operation of all equipment.	*a.* Para 4–4 and note below.
		b. Replace and/or repair any authorized defective or inoperable part.	*b.* None.

Note. In addition to the preventive maintenance checks and services for the items listed in the chart above, perform the monthly preventive maintenance required for the components of the AN/MRC–54(V) which are covered in separate technical manuals (appx I.).

4–10. Organizational Quarterly Preventive Maintenance Checks and Services

a. General. Quarterly maintenance checks and services on the AN/MRC–54(V) are required. The monthly maintenance checks and services (para 4–9) constitute a part of the quarterly preventive maintenance and must be performed concurrently. All deficiencies or

shortcomings will be recorded in accordance with the requirements of TM 38–750. Perform all checks and services listed in the quarterly preventive maintenance checks and services chart (*b* below) in the sequence listed.

b. Organizational Quarterly Preventive Maintenance Checks and Services Chart.

Sequence No.	Item to be inspected	Procedure	References
		General	
1	End item equipment	*a.* Check equipment for completeness, and requisition replacement for missing components, running spares, and defective parts.	*a.* Appx III.
		b. Make sure that all components, except those in use, are mounted or stowed in assigned places.	*b.* Fig. 6–1.
		c. Requisition all technical manuals not on hand or in usuable condition, including current changes.	*c.* DA Pam 310–4 and appx I.
2	Modification work orders (MWO's).	Make sure that all applicable MWO's have been applied and MWO number is stamped as required. Modify or request modification if applicable.	DA Pam 310–4
		Exterior	
3	Shelter skin and hardware.	Check for skin punctures, tears, or open seams that would permit moisture to enter shelter wall. Repair or replace defective hardware.	TB SIG 354
4	Grounding system	Replace ground rod if ground lead lug cannot be securely tightened. Replace ground lead if it is cut, corroded, or broken.	Para 2–5.
5	Shelter door	Make sure that rubber gaskets are not missing or loose and that they provide watertight seal. See that hinges and door handles are not broken.	None.
6	SIGNAL AND POWER ENTRANCE box	*a.* Use a brush and carefully remove sand, moisture, and dirt from contacts of cable connectors.	*a.* None.
		b. Tighten locknuts, screws, and bolts that secure cable and binding posts, and replace defective parts.	*b.* None.
7	Power and signal cable assemblies.	Replace assemblies that contain defective wiring, insulation, or connectors.	None.
		Interior	
8	Signal and power cables	Dress all cabling neatly; use cable and cord clamps provided in shelter, or use electrical insulation tape and twine.	None.
9	Walls, ceiling, and floor.	Paint blistered, pitted, or flaked area and bare metal spots.	Para 4–5.
10	Fire extinguisher	*a.* Refill if weight of contents is less than required or if seal is broken.	*a.* None.
		b. Replace if valve assembly is damaged.	*b.* None.
11	First aid kit	Replace if case is broken or damaged. Replace parts that have been used. (See parts list inside case cover.)	None.
12	Chair and chair cushion	*a.* Repair or replace chair if parts are bent or broken, or if it is unsafe for use.	*a.* None.
		b. Repair or replace cushion that is torn, cut, or has split at the seams or has exposed padding.	*b.* None.
13	Ax and sledge hammer	Replace if handle is broken, split, or does not fit head tightly.	None.
14	Ladder	*a.* Paint blistered, pitted, or flaking areas and bare spots.	*a.* Para 4–5.
		b. Repair or replace if steps, frame, or parts are broken, or if it is unsafe for use.	*b.* None.

4–11. Organizational Troubleshooting, General

The systematic troubleshooting procedure begins with a visual inspection and is completed by localizing and isolating techniques. Localization (*a* below) means tracing the trouble to a defective circuit or component. If the trouble has been localized to a major component, follow the troubleshooting instructions in the appropriate technical manual (appx I). If the trouble has been localized to a defective circuit or component of the S–177(*)/MRC–54(V), use the isolation techniques (*b* below) to locate the defective part.

a. Localization. In general, each circuit or component in the AN/MRC–54(V) is separated from all others electrically and functionally. A trouble in any of the circuits or components can usually be localized by use of the methods given below.

(1) *Visual inspection.* The purpose of visual inspection is to locate troubles without the use of tests or measurements. Look for burned, charred, or otherwise damaged parts or wiring in an attempt to localize the trouble to a particular circuit or component.

(2) *Operational tests.* Operational tests frequently indicate an abnormally operating circuit. In many instances, the tests will be helpful in determining the exact nature of the trouble. Use the operational tests in the daily preventive maintenance checks and services chart (para 4–4) and perform each step in sequence, starting with item 13. When an abnormal indication has been observed, refer to the same item number in the organizational troubleshooting chart (para 4–12) to localize the defective circuit or component.

b. Isolation of Defective Part. When a trouble has been localized to a defective circuit or component, use the following techniques to isolate the defective part.

(1) *Continuity and voltage checks.* Make voltage and continuity checks at outlets, receptacles, connector pins, and other points related to the circuit or component. Refer to the lower schematic-wiring diagram (fig. 6–4) to trace the circuits.

(2) *Signal tracing.* Trace the signals and make voltage checks if the trouble has been localized to a defective signal circuit. Use the AN/MRC–54 (V) signal schematic-wiring diagram (fig. 6–3) to trace the circuits.

4–12. Organizational Troubleshooting Chart

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
13	Voltmeter indicator is 0 volt.	*a.* Defective MAIN circuit breaker CB13 (fig. 4–5).	*a.* Check circuit breaker; replace if necessary (para 4–16).
		b. Defective meter M2.	*b.* Check meter; replace if necessary (para 4–16).
		c. Defective power cable.	*c.* Check power cable; repair if necessary (fig. 4–6).
		d. Defective POWER receptacle (fig. 1–6).	*d.* Check receptacle; replace if necessary (para 4–7).
14	LIGHTS glowlamp fails to light (fig. 4–5).	*a.* Defective lamp socket XDS1	*a.* Check socket; replace if necessary (para 4–16).
		b. Defective LIGHTS circuit breaker CB1.	*b.* Check circuit breaker; replace if necessary (para 4–16).
15	Fluorescent lamps fail to light.	*a.* Defective FLUORESCENTS switch S4 and/or NORMAL-BLACKOUT switch S3.	*a.* Check switches S3 and S4; replace if necessary (fig. 6–4).
		b. Defective light fixture.	*b.* Check light fixtures; repair or replace if necessary (para 4–18).

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
16	*a.* Front fluorescent light fails to light.	*a.* Defective FLUORESCENT switch S2 or light fixture.	*a.* Check switch S2 and light fixture; replace if necessary.
	b. Neonlight fails to light.	*b.* Defective NEON switch S5.	*b.* Replace switch S5.
17	*a.* Ammeter indication is 0 ampere.	*a.* Defective meter M1 or transformer T1.	*a.* Check meter M1 and transformer T1; replace if necessary (para 4–16).
	b. Ammeter indication is abnormally high.	*b.* Defective wiring.	*b.* Check wiring; repair if necessary (para 4–16 and fig. 6–4).
18	Fluorescent lights are not extinguished when door is opened.	Defective door microswitch S1 ----	Check door microswitch; replace if necessary (fig. 6–4).
19	Fluorescent lights fail to light.	Defective switch S3 ----------	Check switch; replace if necessary.
20	*a.* BLOWER 1 glowlamp fails to light.	*a.* Following may be defective: (1) BLOWER 1 circuit breaker. (2) Socket XDS7.	*a.* Make following checks: (1) Check circuit breaker; replace if necessary (para 4–16). (2) Check socket; replace if necessary (fig. 6–4).
	b. BLOWER 1 glowlamp lights but blower No. 1 fails to operate.	*b.* Defective blower No. 1.	*b.* Check blower; repair if necessary (para 4–15).
21	*a.* BLOWER 2 glowlamp fails to light.	*a.* Following may be defective: (1) BLOWER 2 circuit breaker. (2) Socket XDS8.	*a.* Check socket; replace if defective (para 4–16). (1) Check circuit breaker, replace if necessary (para 4–16). (2) Check socket; replace if necessary (fig. 6–4).
	b. BLOWER 2 glowlamp lights but blower No. 2 fails to operate.	*b.* Defective blower No. 2.	*b.* Check blower; repair if necessary (para 4–15).
22	HEATER glowlamp fails to light.	*a.* Defective HEATER circuit breaker. *b.* Defective socket XDS2.	*a.* Check circuit breaker; replace if necessary (para 4–16). *b.* Check socket; replace if necessary (para 4–16).
23	*a.* No air is expelled from heater.	*a.* Following may be defective: (1) HEATER receptacle. (2) HEATER controls. (3) Motor.	*a.* Check the following: (1) Check receptacle; replace if necessary. (2) Check controls switch; replace if necessary. (3) Check motor; replace if necessary.
	b. Air is not heated ------	*b.* Following may be defective: (1) Heater controls. (2) Heating element.	*b.* Check the following: (1) Check controls; replace if necessary. (2) Check heating element; replace if necessary.
	c. Heater continues to heat after desired temperature is reached.	*c.* Defective temperature control.	*c.* Check temperature control; replace if necessary.
24	Associated glowlamp fails to light.	*a.* Defective circuit breaker.	*a.* Check circuit breaker; replace if necessary (para 4–16).

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
		b. Defective lamp socket.	*b.* Check socket; replace if necessary (para 4–16).
25	Glowlamp fails to light ____	*a.* Defective circuit breaker.	*a.* Check circuit breaker; replace if necessary (para 4–16).
		b. Defective socket XDS4.	*b.* Check socket; replace if necessary (para 4–16).
26	Radio equipment fails to operate.	*a.* Defective ceiling receptacle.	*a.* Check receptacle; replace if necessary.
		b. Defective radio equipment.	*b.* Refer to TM 11–5820–287–20.
27	INTERCOM circuit breaker glowlamp fails to light (fig. 4–5).	*a.* Defective INTERCOM circuit breaker.	*a.* Check circuit breaker; replace if necessary (para 4–16).
		b. Defective socket XSD9.	*b.* Check socket; replace if necessary (para 4–16).
28	LS–147(*)/FI fails to operate properly.	*a.* Defective INTERCOM receptacle.	*a.* Check receptacle; replace if necessary (fig. 6–4).
		b. Defective LS–147(*)/FI.	*b.* Refer to TM 11–5830–221–12.
29	TA–312/PT fails to operate properly.	Defective TA–312/PT.	Refer to TM 11–2155.

4–13. Organizational Repair Procedures, General

Note: Refer to appendix III for a list of replacement parts authorized for organizational maintenance.

a. Communication Equipment. Refer to TM 11–5820–287–20, TM 11–5830–221–12, and TM 11–2155 for instructions for organizational repair of the radio equipment, intercom, and telephone set, respectively.

b. Shelter Facility.

(1) When a defective part has been isolated within a component or circuit of the S–177(*)/MRC–54(V), perform the appropriate repair procedure (para 4–14 through 4–18).

(2) Refer to TB SIG 354 for instructions on the repair of the basic shelter.

4–14. Electric Heater Repairs

a. Remove the heater from its mounting base and remove the cover plates to provide access to the interior of the heater.

b. Refer to figures 4–1 through 4–4 for circuit details and identification of the heater parts. Replace defective parts as authorized; the parts replacement procedures are readily apparent upon inspection.

4–15. Exhaust Blower Repairs

Organizational repair of the blowers is limited to replacement of the ac power cord and the motor.

a. Operate the appropriate BLOWER circuit breaker to OFF.

b. Replace a defective ac power cord or motor as necessary; the replacement procedures are readily apparent upon inspection.

4–16. POWER DISTRIBUTION PANEL Repairs

***Warning:* Before performing any POWER DISTRIBUTION PANEL repairs, disconnect the ac power cable from the POWER receptacle in the SIGNAL AND POWER ENTRANCE box.**

a. Preliminary Procedures. Remove the screws that secure the cover to the POWER DISTRIBUTION PANEL, and remove the cover before performing the procedures given in *b* through *d* below.

b. Removal and Replacement of Circuit Breaker (fig. 4–5).

(1) Grasp the defective circuit breaker and pull it straight out from the panel.

(2) Disconnect the wires connected to the circuit breaker.

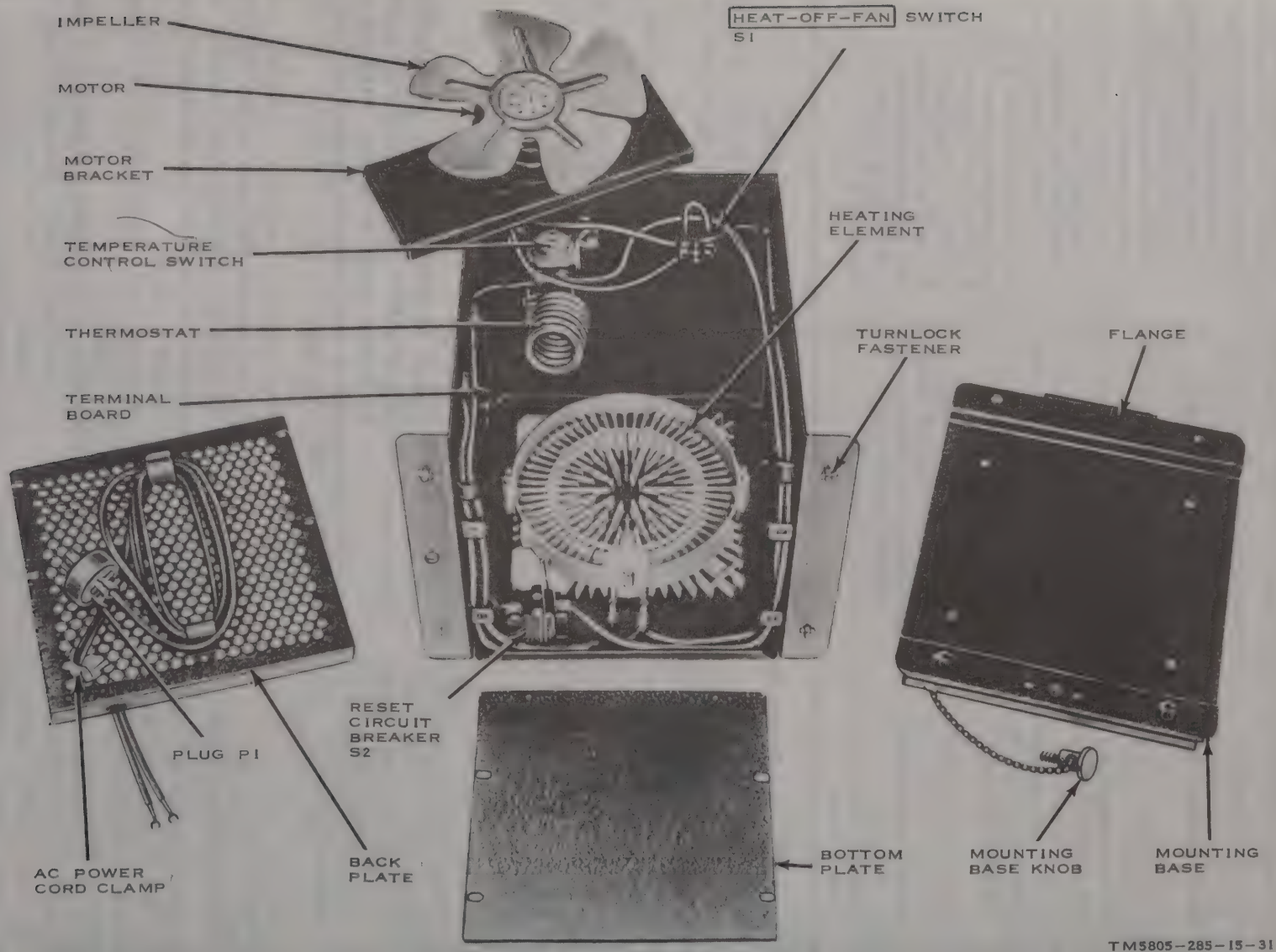

Figure 4-1. Heater (Electromode No. AAT-15A), interior view.

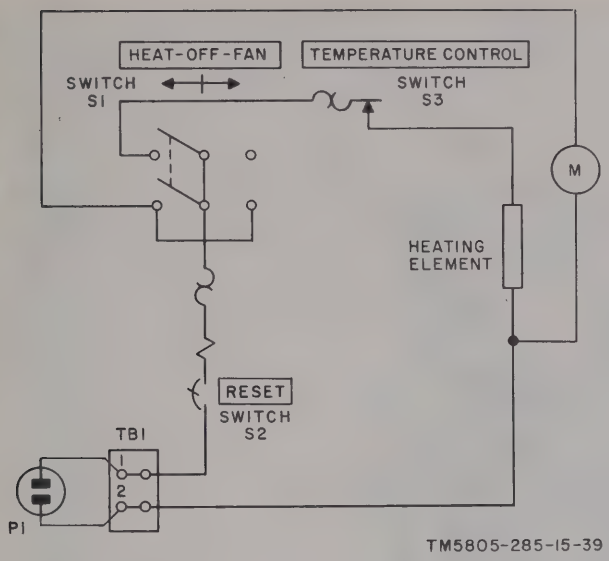

Figure 4–2. Heater (Electromode No. AAT–15A), schematic diagram.

(3) Connect the wires to appropriate terminals of the replacement circuit breaker.

(4) Position the circuit breaker in the POWER DISTRIBUTION PANEL and firmly press it into place.

c. Removal and Replacement of Current Transformer (fig. 4–5).

(1) If the meters are mounted on a separate meter panel, remove the screws that secure the meter panel to the POWER DISTRIBUTION PANEL.

(2) Disconnect the black and white leads from the transformer terminals. (Note which lead was connected to each terminal.)

(3) Remove the nuts and washers that secure the current transformer inside the panel, and remove the current transformer.

Note: Count the number of turns of heavy black wire through the center hole of the current transformer before proceeding to the next step.

(4) Disconnect the black wire wound around the current transformer from the MAIN circuit breaker and carefully unwind the wire.

Caution: **Be sure that the number of turns of black wire around the replacement current transformer is the same as that on the original transformer.**

(5) Wind the black wire around the replacement current transformer.

(6) Reconnect the black wire to the MAIN circuit breaker.

(7) Position the current transformer inside the panel and secure it with the original nuts and washers.

(8) Connect the black and white ammeter leads to the appropriate terminals of the transformer.

(9) Replace the meter panel and tighten the screws.

d. Removal and Replacement of Meters.

(1) Disconnect the leads from the meter terminals. (Note the color of the leads connected to each meter terminal.)

(2) Remove the bolts that secure the meter to the panel, and lift out the meter.

(3) Position the replacement meter in the panel and secure it with the bolts.

(4) Connect the leads to the appropriate terminals of the new meter.

4–17. Removal and Replacement of Power Cable and Entrance Box Connectors

a. Power and Spiral-Four Connectors (fig. 1–6).

(1) Disconnect the ac power cable from the shelter.

(2) Remove the rear cover of the SIGNAL AND POWER ENTRANCE box, disconnect the wires from the terminals of the connector to be replaced, and remove the connector.

(3) Install the replacement connector, connect the appropriate wires to the appropriate terminals of the connector (fig. 4–6, 6–3, or 6–4), and replace the rear cover of the SIGNAL AND POWER ENTRANCE box.

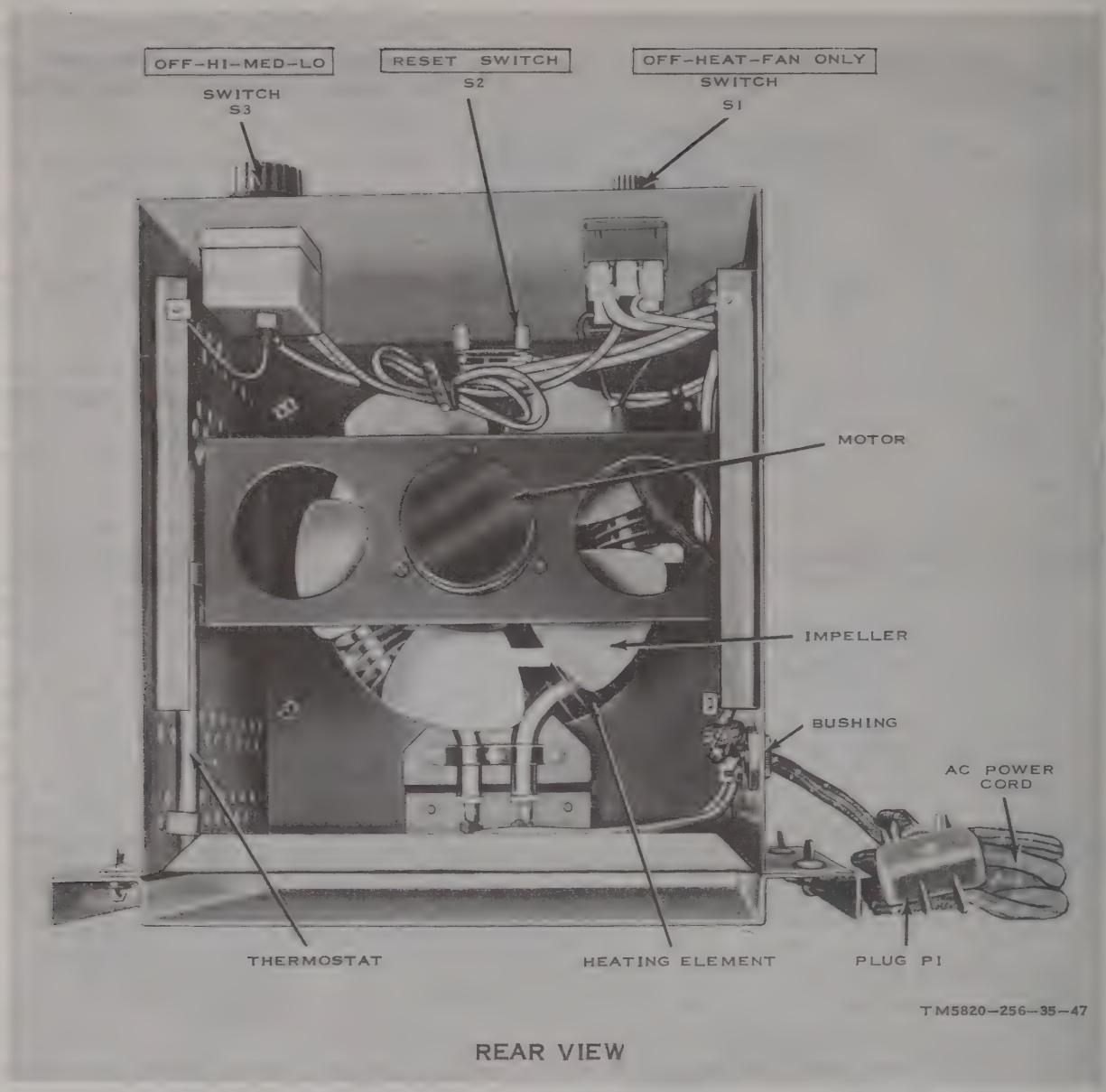

Figure 4–3. Heater (HD–375/U), interior view.

b. Antenna Connectors (fig. 1–6 and 6–1).

(1) Disconnect the cable from the connector to be replaced, and remove the connector.

(2) Install the replacement connector and connect the cable to the connector.

c. Power Cable Connectors. Refer to figure 4–6 for details of removal and replacement of the power cable connectors.

4–18. Repair of Fluorescent Light Fixtures

Note: The fluorescent light fixtures are fabricated as part of the ceiling power duct (fig. 4–7). The filter capacitors are sealed units and cannot be repaired. They are replaced as complete units.

a. Remove the light shield and the fluorescent lamp.

b. Carefully pry off the cover from the power duct.

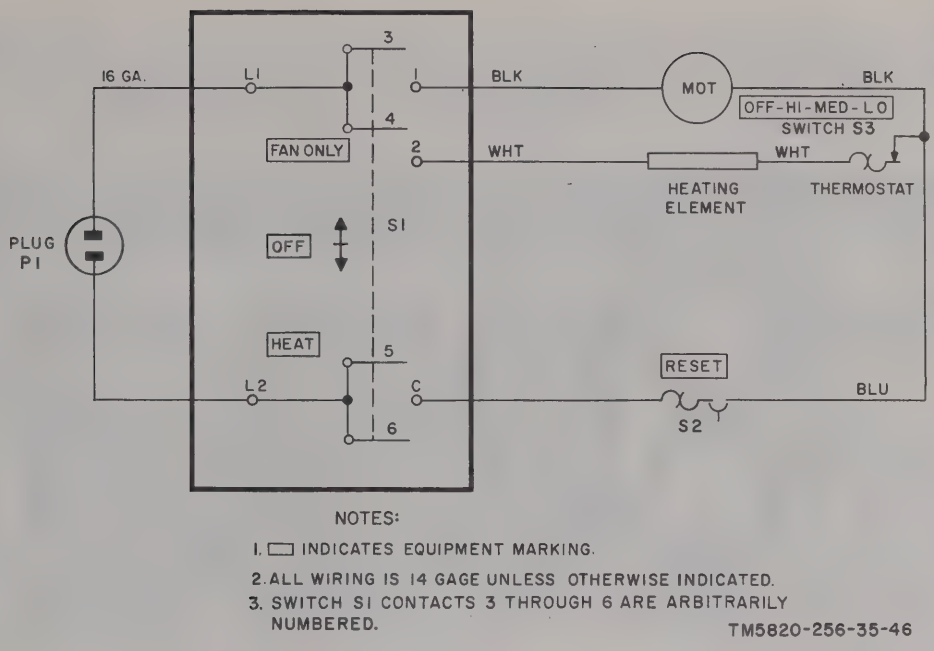

Figure 4–4. Heater (HD–375/U), schematic diagram.

c. Label and disconnect the wires from the defective component.

d. Remove the defective component from the power duct.

e. Secure the replacement component in the power duct.

f. Connect the wires to the replacement component (fig. 4–8).

g. Replace the cover on the power duct.

h. Replace the fluorescent lamp and the light shield.

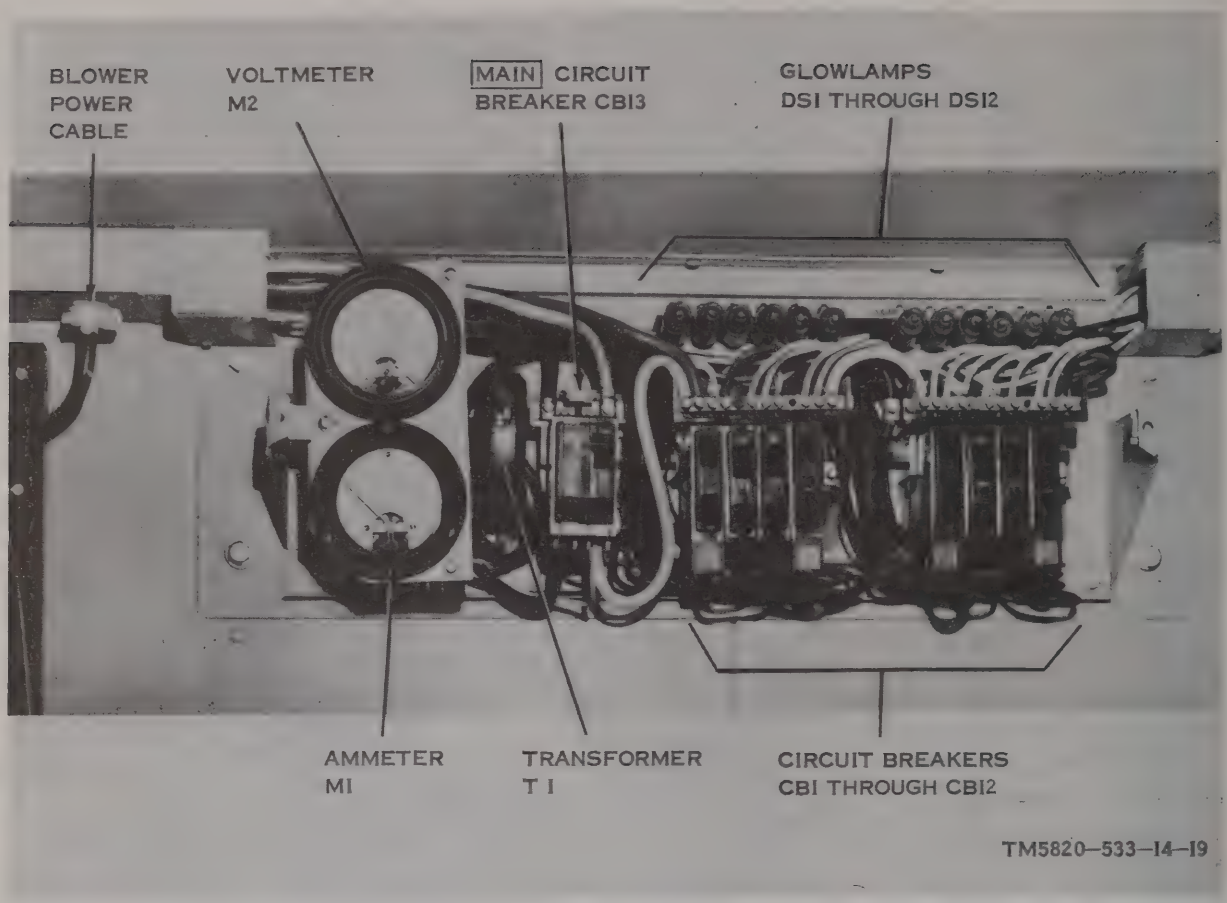

Figure 4–5. POWER DISTRIBUTION PANEL, interior view.

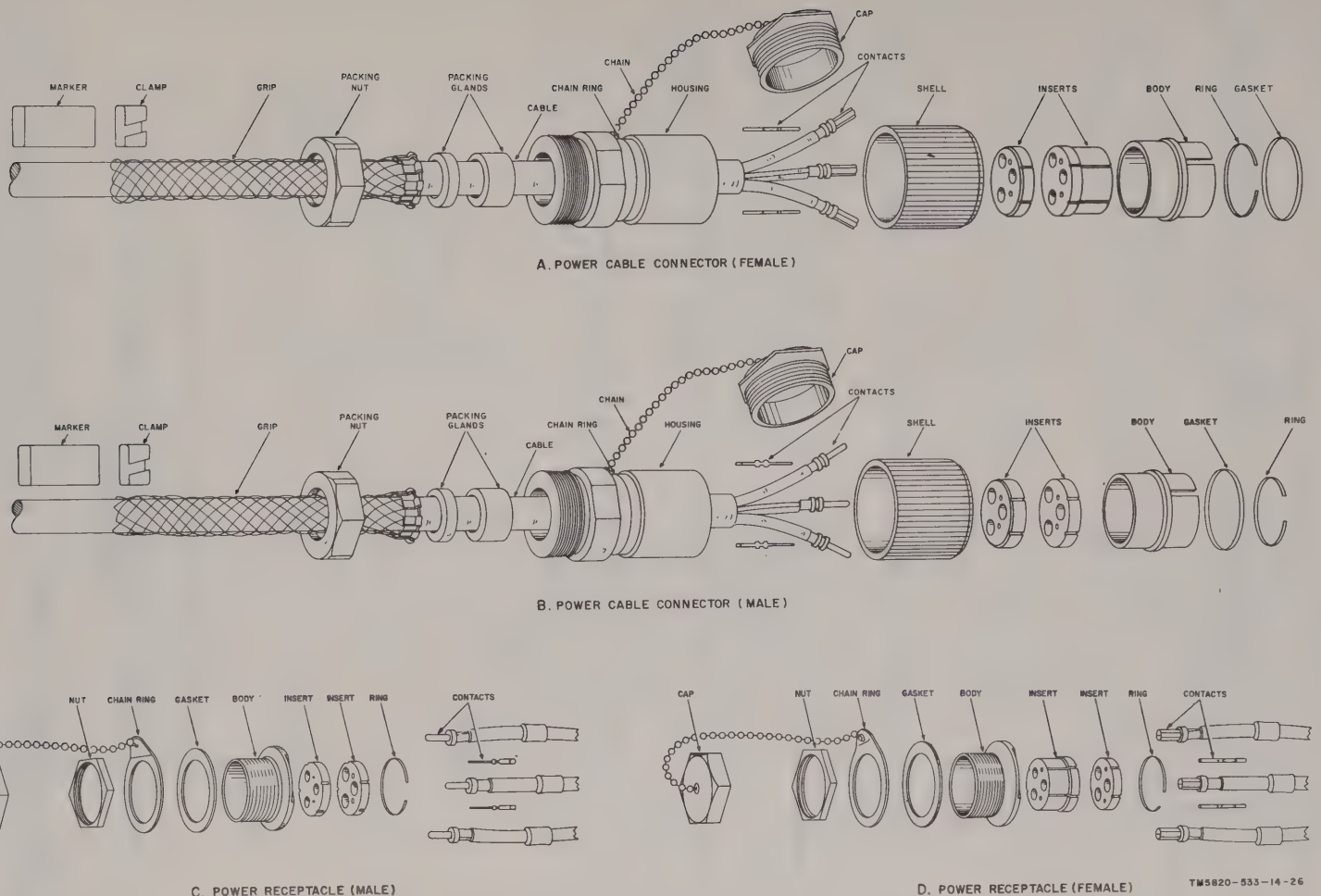

Figure 4–6. Power Cable Assembly CX–4694A/U, repair details.

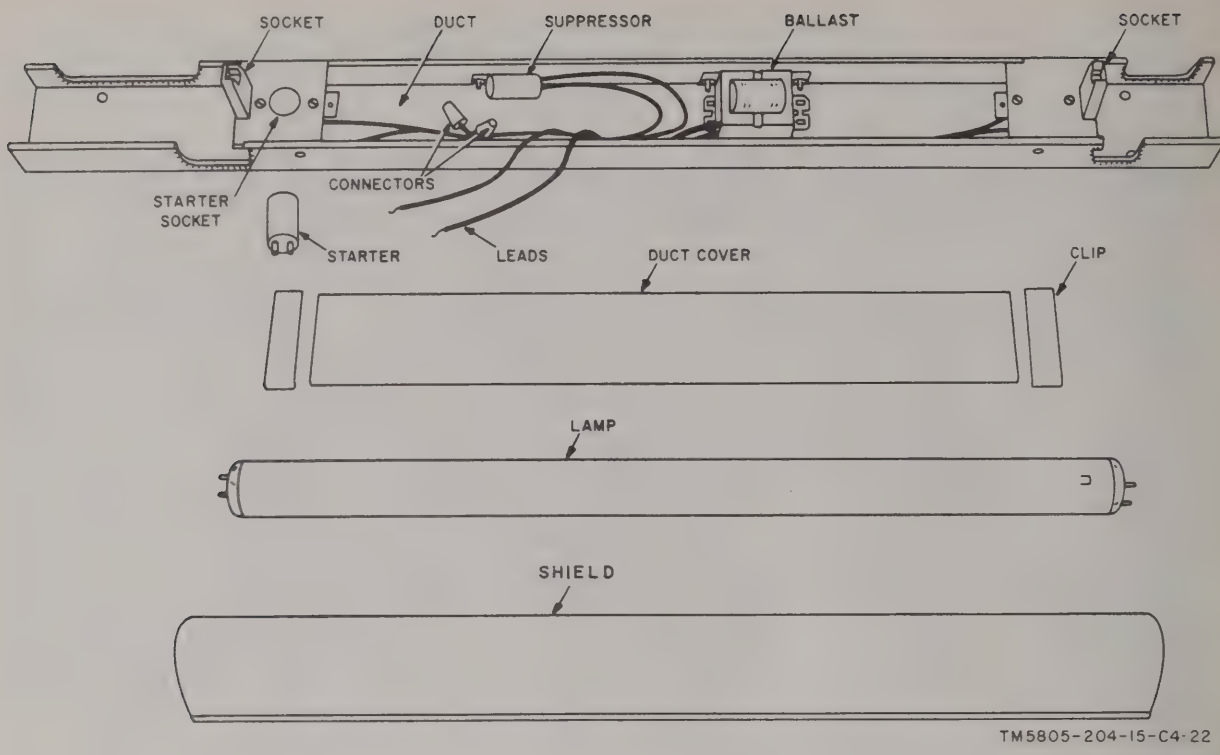

Figure 4–7. Fluorescent light fixture, interior view.

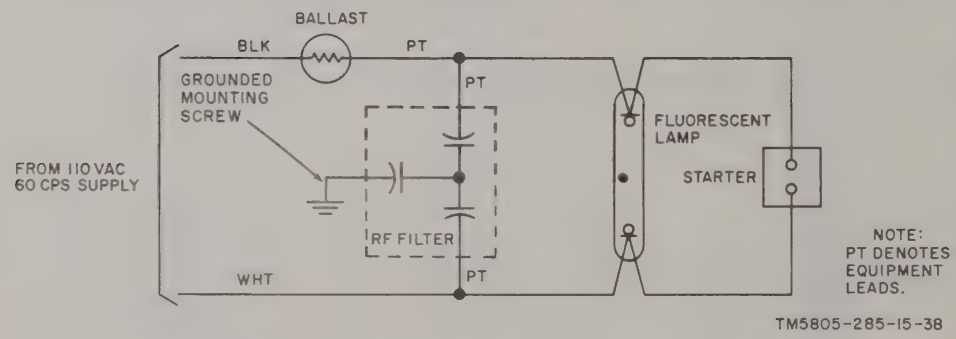

Figure 4–8. Fluorescent light fixture, schematic diagram.

Section III. DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE

4–19. Scope of Direct and General Support and Depot Maintenance

a. General. Direct and general support and depot maintenance includes the corrective maintenance procedures listed in the maintenance allocation chart (appx II).

b. Tools, Test Equipment and Repair Parts Required. The tools and test equipment required for direct and general support and depot maintenance of the AN/MRC–54(V) are listed in section III of the maintenance allocation chart (appx II). Refer to appendix III for

a list of replacement parts authorized for direct and general support and depot maintenance.

4–20. Direct Support Repair Procedures

a. Communication Equipment Repairs. Refer to the applicable technical manual (appx I) for instructions in performing direct support maintenance of the radio equipment, intercom, and telephone set.

b. Shelter, Electrical Equipment S–177(*) /MRC–54(V) Repairs. Direct support repair of the S–177(*)/MRC–54(V) includes the following:

(1) Emergency repair of holes and minor structural damage to the shelter facility.

(2) Removal and replacement of the door handle and latchbolt assemblies, entrance door filter, and cover assemblies and gaskets for the blower vents, the antenna entrance box, and the SIGNAL AND POWER ENTRANCE box.

Note: Refer to TB SIG 354 for additional information on direct support maintenance of the shelter facility.

4–21. General Support Repair Procedures

a. Communication Equipment Repair. Refer to the applicable technical manual (appx I) for instructions in performing general support maintenance and test of the radio equipment, intercom, and telephone set.

b. Shelter, Electrical Equipment S–177(*)/ MRC–54(V) Repair. General support repair of the S–177(*)/MRC–54(V) includes replacement of the doors and skids, and permanent repair of holes and major structural damage to the shelter. Refer to TB SIG 354 for information on general support maintenance procedures of the shelter facility.

4–22. Depot Repair Procedures

a. Communication Equipment Repair. Refer to the applicable technical manual (appx I) for instructions in performing depot maintenance and test of the radio equipment, intercom, and telephone set.

b. Shelter, Electrical Equipment S–177(*)/ MRC–54(V). Refer to TB SIG 354 for detailed instructions for performing depot repair of the shelter facility. The repaired shelter facility must meet the depot inspection standards described in TB SIG 354.

CHAPTER 5

FUNCTIONING OF AN/MRC 54(V)

5–1. General

a. The AN/MRC–54(V) normally functions as a radio repeater between radio terminals. It may also function as a radio terminal when connected to telephone terminal equipment.

b. Refer to paragraph 5–2 for signal circuitry details of the AN/MRC–54(V); refer to paragraph 5–3 for details of the ac power circuitry. Refer to the appropriate equipment technical manuals (appx I) for information concerning functioning of the radio equipment, the intercom, and the telephone set.

5–2. Signal Circuitry

a. Radio Repeater Function. A typical arrangement of the AN/MRC–54(V) functioning as a radio repeater is shown in A, figure 1-2. When the AN/MRC–54(V) functions as a radio repeater, two of the radio sets (systems) in the shelter facility are coupled by a spiral-four cable assembly at the SIGNAL AND POWER ENTRANCE box (fig. 1–6 and 6–3). Signals received from the receiving antenna are demodulated to the 12- to 60-kc band in the radio, are fed through a duplexer in transmitter No. 1 to the receiver and are applied through the spiral-four cable to the transmitter of the other radio set for propagation to the terminal or next repeater. The same sequence is followed for transmission in the reverse direction. The system 3 equipment normally is maintained on standby.

b. Radio Terminal Function. A typical arrangement of the AN/MRC–54(V) functioning as a radio terminal is shown in B, figure 1-2. Any (or all three) of the three radio systems in the shelter facility may be connected by spiral-four cable to a telephone terminal where the signals are converted into individual voice-frequency telephone circuits.

c. Intra-Area Circuits.

(1) *Telephone circuit.* The intra-area telephone circuit is connected to the AN/MRC–54(V) at the LB PHONE binding posts in the SIGNAL AND POWER ENTRANCE box (fig. 1–6). The telephone line is terminated in the PHONE jack in the signal duct and connected to the TA–312/PT through a telephone cord (fig. 6–3).

(2) *Intercom circuit.* The intra-area intercom circuit is connected to the AN/MRC–54(V) at the INTERCOM binding posts in the SIGNAL AND POWER ENTRANCE box. The intercom line is terminated in the INTERCOM jack in the signal duct, and connected to the LS–147 (*)/FI through a telephone cord.

5–3. Ac Power Circuitry

(fig. 6–4)

a. Power Distribution. Power for the AN/MRC–54(V) is applied at a POWER receptacle in the SIGNAL AND POWER ENTRANCE box and is distributed through MAIN circuit breaker CB13 and through 12 individual circuit breakers to the various operating components in the shelter. The second POWER receptacle provides for power connection to another area assemblage. Neon lamp DS14 lights when NEON switch S5 is at ON and power is applied to the shelter facility; individual glowlamps DS1 through DS12 light when the associated circuit breakers are at ON.

b. Meters. Voltmeter M1, connected across the ac input, monitors the input voltage to the shelter facility. Ammeter M2, connected to the ac input through current transformer T1, monitors the total current consumed by the AN/MRC–54(V).

c. Lighting Circuits. Power for shelter lighting is distributed through circuit breaker CB1 (LIGHTS) and controlled by FLUORESCENTS switch S4, FLUORESCENT switch S2, and door microswitch S1. When the shelter door is opened while NORMAL-BLACKOUT switch S3 is at BLACKOUT, all fluorescent lights are extinguished. When the fluorescent lights are out, the curtained area of the shelter is not totally dark; the neon lamp provides a small amount of illumination when the NEON switch is at ON. When the NORMAL-BLACKOUT switch is at NORMAL, door microswitch S1 is disabled.

CHAPTER 6

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND LIMITED STORAGE

6–1. Disassembly of Equipment

Perform the following procedures when the AN/MRC–54(V) is moved to a different location or placed in storage.

a. Turn off all equipment power switches and circuit breakers except the LIGHTS and MAIN circuit breakers and the FLUORESCENTS switch.

b. Secure all components in their cases, racks, mountings, or holders.

c. Place all miscellaneous items in the storage cabinets and secure the cabinets for transit.

d. Remove the batteries from the telephone set and hand lantern for prolonged storage or for long-distance shipment.

e. Disconnect the field wires from the LB PHONE and INTERCOM binding posts in the SIGNAL AND POWER ENTRANCE box (fig. 1–6).

f. Disconnect the spiral-four cable and the antenna cables from their connectors in the SIGNAL AND POWER ENTRANCE box. Replace the covers on all connectors and receptacles.

Warning: **During disassembly of the antenna system, conform to all safety requirements of TB SIG 291. INJURY or DEATH can result from failure to comply with safe practices.**

g. Disassemble the antenna system (TM 11–5820–287–20). Reverse the procedures described in paragraph 2-3 to store the components in the shelter facility.

h. If power was obtained from a generator set, proceed as follows:

(1) Stop the generator set.

(2) Disconnect the power cable from the POWER receptacle of the shelter facility. Replace both connector covers.

(3) Disconnect the power cable from the generator set. If the power cable stub was used, disconnect it from the power cable; wind the cable on the cable reel and store the power cable stub in the storage cabinet in the shelter facility.

i. If power was obtained from a commercial power source, proceed as follows:

(1) Turn off or disconnect the power.

(2) Disconnect the power cable from the POWER receptacle of the shelter facility. Replace both connector covers.

(3) Disconnect the power cable stub from the power source and from the power cable. Wind the power cable on the cable reel and store the power cable stub in the storage cabinet of the shelter facility.

j. Disconnect the ground strap from the GRD terminal in the SIGNAL AND POWER ENTRANCE box. Close and secure the cover on the SIGNAL AND POWER EXTRANCE box.

k. Disconnect the ground strap from the generator set (if used) and from the ground rods. Store the ground straps in the storage cabinets.

l. Close and secure the covers on the blower vents and the air filter on the door.

m. Remove the ground rod and secure it in the shelter (C, fig. 6–1).

n. Secure the power cable reel and the personnel ladder in place (f, fig. 6–1).

o. Recheck the area for loose items. If a generator set was used to supply power, prepare it for shipment or limited storage as described in the appropriate technical manual.

p. Clean the shelter facility thoroughly. Make sure that the drain plug (F, fig. 6–1) is tightly closed.

q. Close and lock the shelter facility.

r. If the AN/MRC–54(V) is truck-mounted, secure the tailgate in the upper position.

6–2. Repackaging for Shipment or Limited Storage

Repackaging of the AN/MRC–54(V) for shipment or limited storage normally will be performed at a packaging facility or by a packaging team. Should emergency packaging be required, select materials from those listed in SB 38–100. Package the set in accordance with the original packaging insofar as possible with available materials.

Section II. DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

6–3. Authority for Demolition

Demolition of the equipment will be accomplished only upon the order of the commander. The destruction procedures outlined in paragraph 6-4 will be used to prevent further use of the equipment.

6–4. Methods of Destruction

Use any or all of the following methods to destroy the equipment.

a. Smash. Smash the controls, tubes, coils, relays, switches, capacitors, transformers, and meters.

b. Cut. Cut all cables and cords and slash the wiring on the components.

c. Burn. Burn all flammable items such as cords and technical manuals.

d. Bend. Bend panels, antenna components, and cabinets.

APPENDIX I

REFERENCES

The following is a list of applicable references available to the operator and maintenance repairman of the AN/MRC–54(V).

Note: One asterisk after a publication number listed below indicates that two copies of the publication are furnished as part of the AN/MRC–54(V). Because the radio components of the AN/MRC–54(V) vary as determined by the operating band requirements of the user, the presence of two asterisks in the list below indicates that two copies of the indicated publication are included *only* when the subject equipment is furnished as part of the AN/MRC–54(V).

DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 4, 6, 7, 8, and 9), Supply Catalogs (type CL), Supply Bulletins, Lubrication Orders, and Modification Work Orders.
LO 11–362	Reel Units RL–31, RL–31–B, RL–31–C, RL–31–D, and RL–31–E.
SB 11–6	Dry Battery Supply Data.
SB 11–100–42	Serviceability Standards for Reel Unit RL–31–( ).
SB 11–100–156	Serviceability Standards for Telephone Set TA–312/PT.
SB 11–573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
SB 38–100	Preservation, Packaging, and Packing Materials, Supplies, and Equipment Used by the Army.
TB SIG 291	Safety Measures to be Observed When Installing and Using Whip Antennas, Field Type Masts, Towers, Antennas, and Metal Poles That are Used With Communication, Radar, And Direction Finder Equipment.
TB SIG 354*	Maintenance and Repair Procedures for Lightweight Field and Mobile Shelters of Aluminum Stressed Skin Foam-Core Construction (Covering S–141/G and S–144/G Type Shelters).
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment.
TM 11–362*	Reel Units RL–31, RL–31B, RL–31C, RL–31D, and RL–31E.
TM 11–2155*	Telephone Set TA–312/PT.
TM 11–3895–202–20P	Organizational Maintenance Repair Parts and Special Tool Lists: Reel Units RL–31, RL–31B, RL–31C, RL–31D, and RL–31E.
TM 11–3895–202–35P	Field and Depot Maintenance Repair Parts and Special Tool Lists: Reel Units RL–31, RL–31B, RL–31C, RL–31D, and RL–31E.
TM 11–5410–206–12P	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart; Shelter, Electrical Equipment S–141/G.
TM 11–5805–201–20P	Organizational Maintenance Repair Parts and Special Tool Lists: Telephone Set TA–312/PT.
TM 11–5805–201–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Telephone Set TA–312/PT.

TM 11–5805–257–12P	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Generators, Ringing, Hand G–42/PT and G–42A/PT.
TM 11–5820–263–12P*	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Radio Set Group OA–1387/GRC.
TM 11–5820–263–35P	Field and Depot Maintenance Repair Parts and Special Tool Lists: Radio Set Groups OA–1387/GRC and OA–1387A/GRC.
TM 11–5820–278–12P**	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Amplifier Group OA–1390/GRC.
TM 11–5820–278–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Amplifier Group OA–1390/GRC.
TM 11–5820–279–12P**	Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Amplifier Group OA–1392/GRC.
TM 11–5820–279–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Amplifier Group OA–1392/GRC.
TM 11–5820–282–12P**	Operator and Organizational Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart: Amplifier Group OA–1394/GRC.
TM 11–5820–282–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Amplifier Group OA–1394/GRC.
TM 11–5820–287–10*	Operator's Manual: Radio Sets AN/TRC–24, AN/GRC–75, AN/GRC–78, AN/GRC–81, and AN/GRC–81A; Radio Terminal Sets AN/TRC–35, AN/GRC–76, AN/GRC–79, and AN/GRC–82; Radio Relay Set AN/TRC–36; Radio Repeater Sets AN/GRC–77, AN/GRC–80, and AN/GRC–83; and Radio Set Groups AN/TRA–25, AN/TRA–25A, and OA–3668A/TRC–24.
TM 11–5820–287–20*	Organizational Maintenance Manual: Radio Sets AN/TRC–24, AN/GRC–75, AN/GRC–78, AN/GRC–81, and AN/GRC–81A; Radio Terminal Sets AN/TRC–35, AN/GRC–76, AN/GRC–79, and AN/GRC–82; Radio Relay Set AN/TRC–36; Radio Repeater Sets AN/GRC–77, AN/GRC–80, and AN/GRC–83; and Radio Set Groups AN/TRA–25, AN/TRA–25A, and OA–3668A/TRC–24.
TM 11–5820–287–20P	Organizational Maintenance Repair Parts and Special Tools List: Radio Sets AN/TRC–24, AN/GRC–75, AN/GRC–78, AN/GRC–81 and AN/GRC–81A; Radio Terminal Sets AN/TRC–35, AN/GRC–76, AN/GRC–79 and AN/GRC–82; Radio Relay Set AN/TRC–36; Radio Repeater Sets AN/GRC–77, AN/GRC–80, and AN/GRC–83; and Radio Set Group AN/TRA–25.
TM 11–5820–287–35P	Field and Depot Maintenance Repair Parts and Special Tool Lists: Radio Set AN/TRC–24, Radio Terminal Set AN/TRC–35; Radio Relay Set AN/TRC–36, Radio Set AN/GRC–75, Radio Terminal Set AN/GRC–76, Radio Repeater Set AN/GRC–77, Radio Set AN/GRC–78, Radio Terminal Set AN/GRC–79, Radio Repeater Set AN/GRC–80, Radio Set AN/GRC–81, Radio Terminal Set AN/GRC–82, and Radio Repeater Set AN/GRC–83.
TM 11–5820–293–12P**	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Antenna Filter Group OA–1397/GRC.

TM 11–5820–293–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna Filter Group OA–1397/GRC.
TM 11–5820–296–20P	Organizational Maintenance Repair Parts and Special Tools List: Antenna Accessory Group OA–1398/GRC.
TM 11–5820–296–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna Accessory Group OA–1398/GRC.
TM 11–5820–302–12P**	Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Antenna Group OA–1389/GRC.
TM 11–5820–302–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna Group OA–1389/GRC.
TM 11–5820–303–12P*	Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Power Accessories Group OA–1676/GRC.
TM 11–5820–303–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Power Accessories Group OA–1676/GRC.
TM 11–5820–309–12P**	Operator's and Organizational Maintenance Repair Parts and Special Tool Lists and Maintenance Allocation Chart: Amplifier Group OA–1396/GRC.
TM 11–5820–309–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Amplifier Group OA–1396/GRC.
TM 11–5820–310–12P**	Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Antenna-Filter Group OA–1395/GRC.
TM 11–5820–310–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna-Filter Group OA–1395/GRC.
TM 11–5820–311–12P**	Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Antenna Filter Group OA–1391/GRC.
TM 11–5820–311–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna Filter Group OA–1391/GRC.
TM 11–5820–312–12P**	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Antenna Filter Group OA–1393/GRC.
TM 11–5820–312–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna Filter Group OA–1393/GRC.
TM 11–5820–457–12P**	Operator and Organizational Maintenance Repair Parts and Special Tool Lists and Maintenance Allocation Chart: Radio Set Group AN/TRA–25 and AN/TRA–25A.
TM 11–5820–457–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Radio Set Group AN/TRA–25 and AN/TRA–25A.
TM 11–5820–506–12P	Operator and Organizational Repair Parts and Special Tools List: Radio Set Group OA–3668A/TRC–24.
TM 11–5820–517–12P**	Operator and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Antenna AT–903/G.
TM 11–5820–517–35P	Field and Depot Maintenance Repair Parts and Special Tools List: Antenna AT–903/G.
TM 11–5830–221–12*	Operator's and Organizational Maintenance Manual: Intercommunications Stations LS–147A/FI, LS–147B/FI, LS–147C/FI, and LS–147D/FI.

TM 11–5830–221–20P	Organizational Maintenance Repair Parts and Special Tool Lists. Intercommunication Stations LS–147A/FI, LS–147B/FI, LS–147C/FI and LS–147D/FI.
TM 11–5830–221–35	Field and Depot Maintenance Manual: Intercommunication Stations LS–147A/FI, LS–147B/FI, LS–147C/FI, and LS–147D/FI.
TM 11–5830–221–35P	Field and Depot Maintenance Repair Parts and Special Tool Lists: Intercommunication Stations LS–147A/FI, LS–147B/FI, LS–147C/FI, and LS–147B/FI.
TM 11–5965–224–15P	Operator, Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists and Maintenance Allocation Chart: Hand sets H–60/PT and H–165/U.
TM 38–750	Army Equipment Record Procedures.

APPENDIX II

OPERATORS BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

1. General

This appendix lists items supplied for initial operation and for running spares. The list includes tools, parts, and material issued as part of the major end item. The list includes all items authorized for basic operator maintenance of the equipment. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

2. Columns

Columns are as follows:

a. Federal Stock Number. This column lists the 11-digit Federal stock number.

b. Designation by Model. The dagger (†) indicates model in which the part is used.

c. Description. Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

d. Unit of Issue. The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

e. Expendability. Nonexpendable items are indicated by NX. Expendable items are not annotated.

f. Quantity Authorized. Under "Items Comprising and Operable Equipment," the column lists the quantity of items supplied for the initial operation of the equipment. Under "Running Spare Items," the quantities listed are those issued initially with the equipment as spare parts. The quantities are authorized to be kept on hand by the operator for maintenance of the equipment.

g. Illustration. The "Figure No." column lists the figure and reference numbers used for identification of the items in the illustration.

Section II. OPERATOR'S FUNCTIONAL PARTS LIST

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
5820-542-7297		REPEATER SET, RADIO AN/MRC-54(V): an aor pr vehicular transportable radio repeater set used between radio terminals sets such as AN/MRC-69(V) or AN/MRC-73(V)/. Can be operated as a radio terminal when connected to telepphone terminals such as AN/MCC-9 or AN/MCC-6. Provides operation on any of six frequency bands within the 50-mc to 1,875-mc range. Radio equipment components variable; determined by operating frequency band requirements of user.		NX			
		ITEMS COMPRISING FAN OPERABLE EQUIPMENT					
ORD thru AGC		TECHNICAL MANUAL TM 11-5820-203-15			2		
ORD thru AGC		TECHNICAL BULLETIN TB-SIG-354			2		
		(NOTE: For maintainable equipments listed below, only two each technical manuals are authorized)					
3895-252-6896		REEL UNIT RL-31		NX	1	6-1	
5410-647-0118		SHELTER, ELECTRICAL EQUIPMENT S-177/MRC-54(V); S-177A, B, C, D, E/MRC-54(V): (S-141()/G Shelter modified)		NX	1	1-3	
5805-543-0012		TELEPHONE SET TA-312/PT (less case)		NX	1	2-2	
6115-823-2425		GENERATOR SET, GASOLINE ENGINE PU-474/M (NOTE: 1 ea PU-474/M required for use with, but not part of AN/MRC-54(V), Line Item Number 6606410).		NX	1		
		RADIO EQUIPMENT					
		(NOTE: Quantity in QTY AUTH column is for one (1) AN/MRC-54(V))					
6150-549-4857		CABLE ASSEMBLY, POWER, ELECTRICAL CX-2254/U: (10 ft)			2	6-1	
5975-393-1269		CLAMP ASSEMBLY: SigC dwg #SC-C-66471			10	1-8	
5820-543-1283		POWER ACCESSORIES GROUP OA-1676/GRC: (less Case, Acessories CY-143/TRC) (Less Interconnecting Box J-532/U) (TM 11-5820-303-12P)		NX	1	6-1	
5820-566-7945		ANTENNA ACCESSORIES GROUP OA-1398/GRC: (2 ea less Hammer HM-3) (TM 11-5820-289-10)		NX	3		

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
		AN/MRC-54(V) (continued)					
5820-543-0116		RADIO SET GROUP OA-1387/GRC: c/o 1 ea Transmitter T-302/TRC (Less Case CY-1341/TRC) 1 ea Receiver R-417/TRC (Less Case CY-1339/TRC 1 ea Power Supply PP-685/TRC (Less Case CY-1340/TRC) (Less Autotransformer TF-167/TRC) 1 ea Acessory Kit MK-133/TRC (Less Cable Assy CY-1512/U (12 ft) less Cable Assy Power CX-2257/U (10 ft), less Case Accessories CY-1343/TRC less Light extension)		NX	3	6-1	
		AND					
		''A'' BAND (50-100 MC)					
5820-543-0113		ANTENNA FILTER GROUP OA-1391/GRC: (Less CY-1760/GRC and CY-1344/TRC) (TM11-5820-311-12P)		NX	3	6-1	
5820-543-0014		AMPLIFIER GROUP OA-1390/GRC: (Less CY-1338/TRC) (TM 11-5820-278-12P)		NX	3	6-1	
5995-682-3352		CABLE ASSEMBLY, RADIO FREQUENCY CG-1030A/U:			6	6-1	
8130-292-1108		REEL, CABLE RC-404/TR			3	6-1	
		OR					
		''B'' BAND (100-225 MC)					
5820-543-0111		ANTENNA FILTER GROUP OA-1393/GRC: (Less Cases CY-1371/TRC and CY-1344/TRC) (TM 11-5820-312-12P)		NX	3	6-1	
5820-543-0112		AMPLIFIER GROUP OA-1392/GRC: (Less Case CY-1338/TRC) (TM 11-5820-279-12P)		NX	3	6-1	
5995-682-3352		CABLE ASSEMBLY, RADIO FREQUENCY CG-1030A/U:			6	6-1	
8130-292-1108		REEL, CABLE RC-404/TR		NX	3	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC) (TM 11-5820-302-12P)		NX	1	6-1	
5820-543-0015		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY1387/TRC; less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)		NX	2	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
		AN/MRC-54(V) (continued)					
		OR					
		"C" BAND (225-400 MC)					
5820-543-0109		ANTENNA FILTER GROUP OA-1395/GRC: (Less Cases CY-1370/TRC and CY-1344/TRC) (TM11-5820-310-12P)		NX	3		
5820-543-0110		AMPLIFIER GROUP OA-1394/GRC: (Less Case CY-1338/TRC (TM 11-5820-282-12P)		NX	3		
5995-682-3352		CABLE ASSEMBLY, RADIO FREQUENCY CG-1030A/U:		NX	6	6-1	
8130-292-1108		REEL, CABLE RC-404/TR		NX	3	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC) (TM 11-5820-302-12P)					
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC: less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)		NX	2	6-1	
		OR					
		"D" BAND (400-600 MC)					
5820-543-0107		ANTENNA FILTER GROUP OA-1397/GRC: (Less Cases CY-1761/GRC and CY-1344/TRC) (TM 11-5820-293-12P)		NX	3		
5820-543-0108		AMPLIFIER GROUP OA-1396/GRC: (Less Case CY-1338/TRC) (TM 11-5820-209-12P)		NX	3		
5995-682-3352		CABLE ASSEMBLY, RADIO FREQUENCY CG-1030A/U:			6	6-1	
8130-292-1108		REEL, CABLE RC-404/TR		NX	3	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC) (TM 11-5820-302-12P)		NX	1	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC; less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)		NX	2	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
		AN/MRC-54(V) (continued)					
		OR					
		"F" BAND (790-965 MC)					
5820-776-5406		RADIO SET GROUP AN/TRA-25: (Less Cases CY-2854/TRA-25 and CY-2853/TRA-25) (TM 11-5820-457-12P)		NX			
5820-324-8714		AMPLIFIER-CONVERTER AM-913/TRC: (TM 11-5820-279-12P)		NX	3	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC, and AT-414/TRC) (TM 11-5820-302-12P)		NX	1	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC, CY-1387/TRC, and AT-414/TRC; less soxket wrench handle, 1/2 in socket wrench 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)		NX	2	6-1	
8130-292-1108		REEL, CABLE RC-404/TR		NX	3	6-1	
		OR					
		"F" BAND (790-965 MC)					
5820-856-9111		RADIO SET GROUP AN/TRA-25A: (Less Cases CY-2854/TRA-25, CY-2595/GR, and CY-3622/TRA-25A) (TM 11-5820-457-12P)		NX	3		
5820-324-8714		AMPLIFIER-CONVERTER AM-913/TRC (TM 11-5820-279-12P)		NX	3	6-1	
8130-292-1108		REEL, CABLE RC-404/TR			3	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC, AT-414/TRC, and AB-325/TRC) (TM 11-5820-302-12P)		NX	1	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC, AT-414/TRC, and AB-325/TRC; less soxket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench and 1/2 in - 9/16 in box wrench)		NX	2	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
						FIGURE NO.	ITEM NO.
		AN/MRC-54(V) (continued)					
		OR					
		''J'' BAND (1350-1875 MC)					
5820-082-3214		RADIO SET GROUP OA-3668A/TRC-24: (Less Cases CY-1338/TRC, CY-1344/TRC, CY-2595/GR and CY-3901/TRC-24)(TM 11-5820-506-12P)		NX	3		
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC and CY-1387/TRC, AT-414/TRC and AB-325/TRC) (TM 11-5820-302-12P)		NX	1	6-1	
5820-543-0115		ANTENNA GROUP OA-1389/GRC: (Less Cases CY-1385/TRC, and CY-1387/TRC, AT-414/TRC and AB-325/TRC; Less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench and 1/2 in - 9/16 in box wrench)		NX	2	6-1	
		SHELTER, ELECTRICAL EQUIPMENT S-177/MRC-54(V) S-177A, B, C, D, E/MRC-54(V)					
		NOTE: Model Column 1 refers to S-177/MRC-54(V); Column 2 refers to S-177A/MRC-54(V); Column 3 refers to S-177B/MRC-54(V); Column 4 refers to S-177/MRC-54(V); Column 5 refers to S-177D/MRC-54(V); Column 6 refers to S-177/MRC-54(V).					
5935-577-8804	† † † † † †	ADAPTER, CONNECTOR UG-1312/U; Sig dwg SM-B-335345			2	6-1	
4210-727-8111	† † † † † †	AXE, SINGLE BIT: 2 lb hd; Fed Spec GGG-A-926B, type 1 Class 2			1	6-1	
7520-753-4544	† † † † † †	BASKET, WASTEPAPER: steel 8-7/8 in w x 16-3/4 in lg x 15-1/4 in h Sig dwg SM-B-363005			1	6-1	
6135-120-1020	† † † † † †	BATTERY BA-30			4		
7510-753-4542	† † † † † †	BINDER, LOOSE LEAF: 8-1/2 in x 11 in Sterling Line No.17856; Sig dwg SM-B-335395			2		
7920-240-6358	† † † † † †	BRUSH, DUSTING, BENCH: H.E. Smith part #BB2; Sig dwg SM-B-364924			1	6-1	
5995-889-1228	† † † † † †	CABLE ASSEMBLY, POWER, ELECTRICAL CX-469A/U: (100 ft); Sig dwg SC-DL-335418			1	1-8	
5995-681-8446	† † † † † †	CABLE ASSEMBLY, POWER, ELECTRICAL CX-4772/U; (6 ft) Sig dwg SC-DL-363754			1	1-9	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
											FIGURE NO.	ITEM NO.
							AN/MRC-54(V) (continued)					
5995-681-8445	†	†	†	†	†	†	CABLE ASSEMBLY,POWER, ELECTRICAL CX-4773/U: (6 ft 2 in); Sig dwg SC-DL-363752			1	1-9	
5995-681-8438	†	†	†	†	†	†	CABLE ASSEMBLY, TELEPHONE CX-1606/G: (3 ft) Sig dwg SM-B-364236			2	1-9	
7105-269-8463	†	†	†	†	†	†	CHAIR, FLODING: steel; Lyon Steel Equipment Co part #1506; Sig dwg SM-B-335417		NX	1	6-1	
6645-526-4395	†	†	†	†	†	†	CLOCK, WALL: AIRCRAFT, MECHANICAL (NOTE: When replacing Clock Retain Mounting Bracket)			1	6-1	
6605-892-5399	†	†	†	†	†	†	COMPASS, MAGNETIC:		NX	1	1-9	
5995-681-8470	†	†	†	†	†	†	CORD ASSEMBLY, ELECTRICAL CX-4695/U: (2 ft) Sig dwg SC-DL-370292			2	1-9	
7210-753-3043	†	†	†	†	†	†	CUSHION, CHAIR and STOOL: foam rubber; 14-1/2 in w x 15 in lg x 1 in thk; Dunlap part #304-17 Sig dwg SM-B-335428			1	6-1	
4210-383-7128	†	†	†	†	†	†	EXTINGUISHER, FIRE, CARBON DIOXIDE: 2-1/2 lg cap; Kidde type 2-1/2 T1; Sig dwg SM-B-364218		NX	1	6-1	
4210-270-4512	†	†	†	†	†	†	EXTINGUISHER, FIRE, CARBON DIOXIDE: 5 lb cap; Kidde type 5T1; Sig dwg SM-B-364217		NX	1	6-1	
5120-752-8862	†	†	†	†	†	†	EXTRACTOR, ELECTRON TUBE: 7 pin; Econ Fuse part #TP7; Sig dwg SM-B-364370			1	1-10	
5120-293-2692	†	†	†	†	†	†	EXTRACTOR, ELECTRON TUBE: 9 pin; Econ Fuse #TP9; Sig dwg SM-B-364371			1	1-10	
4140-687-8589					†	†	FAN, CENTRIFUGAL: LH; f/exhaust; CW; Sig dwg SM-D-464168 (Mounted in equip)		NX	1	6-1	
4140-687-8590					†	†	FAN, CENTRIFUGAL: RH; f/exhaust; CCW; Sig dwg SM-D-464169 (Mounted in equip)		NX	1	6-1	
4130-542-3327	†	†	†	†		†	FILTER, AIR CONDITION: 15-3/4 in w x 19-3/4 in lg x 1-7/8 in thk; AIR-MAZE part #P-5			1	6-1	
5410-875-1245					†		FILTER, AIR CONDITION: DeKalb part #DK-D-41033			1	6-1	
6545-922-1200	†	†	†	†	†	†	FIRST AID KIT, GENERAL PURPOSE:			1	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
											FIGURE NO.	ITEM NO.
							AN/MRC-54(V) (continued)					
6210-686-5568	†	†	†	†	†	†	GLOBE, ELECTRIC LIGHT: u/shape Sig #SM-B-335531			7	4-7	
6210-686-5568	†	†	†	†	†	†	GLOBE, ELECTRIC LIGHT: u/shape; f/flourescent lamp; Sig dwg #SM-B-335531			7	4-7	
5120-776-9917	†	†	†	†	†	†	GRIP, CABLE, WOVEN: 16 in lg; Economy Cable Grip part #EQA-6-8P			5	1-9	
5120-251-4489	†	†	†	†	†	†	HAMMER, HAND: 8 lb; Woodings-Verona Tool Works part #15			1	6-1	
5975-682-0519	†	†	†	†	†	†	HANGER, CABLE: ring type ; 5-3/4 in lg, u/to secure incoming cables to side of shelter; Sig dwg SM-B-363104			2	1-9	
4520-649-8145	†						HEATER, SPACE, ELECTRIC HD-375/U		NX	1	6-1	
4520-224-7909		†	†	†	†	†	HEATER, SPACE, ELECTRIC: 115 vac; Electromode part #AAT-15A			1	6-1	
5820-706-3036	†	†	†	†	†	†	HOOK: u/to stretch springs which retain radio components Sig dwg SM-B-364049			2	1-10	
5830-752-5357	†	†	†	†	†	†	INTERCOMMUNICATION STATION LS-147C/FI		NX	1	6-1	
2540-892-6243	†	†	†	†	†	†	LADDER, VEHICLE BOARDING MX-3391/G: Sig dwg SC-DL-108736			1	6-1	
6230-729-9614	†	†	†	†	†	†	LANTERN, ELECTRIC: 6 v; Justrite Model #2106-7			1	6-1	
5410-752-2525	†	†	†	†	†	†	LEAD, ELECTRICAL: f/ground connection; Sig dwg SM-B-352166C			1	1-9	
6230-615-5385	†	†	†	†	†	†	LIGHT, EXTENSION: 25 ft; Woodhead part #506KS25-16-2-SJ			1		
5340-664-1319	†	†	†	†	†	†	PADLOCK: Chicago Lock #741C			1	1-3	
8130-646-1090	†	†	†	†	†	†	REEL, CABLE RC-435/U		NX	1	1-8	
5975-224-5260	†	†	†	†	†	†	ROD, GROUND MX-148/G			1	6-1	
5120-752-9675	†	†	†	†	†	†	SCREWDRIVER: 6 in blade; Bridgeport Hdwe #2143-6			1	1-10	
7520-162-6178	†	†	†	†	†	†	SHARPENER, PENCIL: Boston type 1			1	6-1	
5410-805-5533	†	†	†	†	†	†	SLING, MULTIPLE LEG: f/hoisting shelter; Sig dwg SC-D-36423			1	2-4	
5210-221-1882	†	†	†	†	†	†	TAPE, MEASURING: steel; 100 ft; Lufkin type C-256		NX	1	1-9	
5120-752-8861	†	†	†			†	WRENCH, DRAIN PLUG: Sig dwg SM-B-370021			1	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
											FIGURE NO.	ITEM NO.
							AN/MRC-54(V) (continued)					
							RUNNING SPARE ITEMS					
							REPEATER SET RADIO AN/MRC-54(V)					
							NOTE: Running spares for Radio Set AN/GRC-50(V)4 or AN/GRC-50(V)5 packed in two (2) cases, Standardized Components, Electrical CY-2583/GRC					
5960-262-0152	†	†	†	†	†	†	ELECTRON TUBE MIL type 6AU6WA (Not mounted)			1		
5960-188-0880	†	†	†	†	†	†	ELECTRON TUBE MIL type 6X4W (Not mounted)			1		
5960-669-6861	†	†	†	†	†	†	ELECTRON TUBE: MIL type 6005/6AQ5W(Not mounted)			1		
5920-636-3047	†	†	†	†	†	†	FUSE, CARTRIDGE 1 amp, 250V Littelfuse 313001 (Not mounted)			5	1-11	
							SHELTER, ELECTRICAL EQUIPMENT S-177/MRC-54(V) S-177 A,B,C,D,E/MRC-54(V)					
6240-538-8447	†	†	†	†	†	†	LAMP, FLOURSCENT: GE part EF20T12/CW		3	3	1-11	
6240-223-9104	†	†	†	†	†	†	LAMP, GLOW: MIL type NE-40			1	1-11	
6240-270-4286	†	†	†	†	†	†	LAMP, GLOW: MIL type NE-21			3	1-11	
6240-143-3070	†	†	†	†	†	†	LAMP, INCANDESCENT: 50w; GE #50W/RS (Not installed)			1	1-11	
6240-179-1814						†	LAMP, GLOW, MIL type NE-45			3	1-11	
6240-155-7786	†	†	†	†	†	†	LAMP, INCANDESCENT: f/lantern; GE part #PR-2: (mounted behind reflector in lantern)			1	1-11	
6250-299-2884	†	†	†	†	†	†	STARTER, FLOURESCENT LAMP: GE part #FS-2			6	1-11	

APPENDIX III

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

1. General

This appendix assigns maintenance functions to be performed on components, assemblies, and subassemblies by the lowest appropriate maintenance category.

2. Columns

a. Columns in the maintenance allocation chart are as follows:

(1) *Part or component.* This column shows only the nomenclature or standard item name. Additional descriptive data are included only where clarification is necessary to identify the component. Components, assemblies, and subassemblies are listed in top-down order. That is, the assemblies which are part of a component are listed immediately below that component, and subassemblies which are part of an assembly are listed immediately below that assembly. Each generation breakdown (components, assemblies, or subassemblies) are listed in disassembly order or alphabetical order.

(2) *Maintenance function.* This column indicates the various maintenance functions allocated to the categories.

(*a*) *Service.* To clean, to preserve, and to replenish lubricants.

(*b*) *Adjust.* To regulate periodically to prevent malfunction.

(*c*) *Inspect.* To verify serviceability and detect incipient electrical or mechanical failure by scrutiny.

(*d*) *Test.* To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

(*e*) *Replace.* To substitute serviceable components, assemblies, or subassemblies, for unserviceable components, assemblies, or subassemblies.

(*f*) *Repair.* To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

(*g*) *Align.* To adjust two or more components of an electrical system so that their functions are properly synchronized.

(*h*) *Calibrate.* To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.

(*i*) *Overhaul.* To restore an item to *completely serviceable* condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "Inspect and Repair Only as Necessary" (IROAN). Maximum utilization or diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.

(*j*) *Rebuild.* To restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the item.

(3) *Operator, organization, direct support, general support, and depot.* The symbol X indicates the categories responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Categories higher than those marked by X are authorized to perform the indicated operation.

(4) *Tools required.* This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the maintenance allocation chart indicates the tool, test, and maintenance equipment required to perform to perform the maintenance function.

(5) *Remarks.* Entries in this column will be utilized when necessary to clarify any of the data cited in the preceding column.

b. Columns in the allocation of tools for maintenance functions are as follows:

(1) *Tools required for maintenance functions.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

(2) *Operator, organization, direct support, general support, and depot.* The dagger (†) symbol indicates the categories normally allocated the facility.

(3) *Tool code.* This column lists the tool code assigned.

2. Maintenance by Using Organizations

When this equipment is used by signal services organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including general support are authorized to the organization operating this equipment.

SECTION: II. MAINTENANCE ALLOCATION CHART

PART OR COMPONENT	MAINTENANCE FUNCTION	ECHELON O/C	O	DS	GS	D	TOOLS REQUIRED	REMARKS
RADIO REPEATER SET AN/MRC-54(V)	service	X						Preventive maintenance
			X				4	
	inspect	X						
	test	X						System operation using built-in facilities
			X				1,4	Continuity checks of signal, power and lighting circuits
				X				Test in accordance with component maintenance allocation
					X			Test in accordance with component maintenance allocation
	repair		X					Repair as determined by component maintenance allocation
				X				Repair as determined by component maintenance allocation
					X			Repair as determined by component maintenance allocation
	rebuild					X	4,5	Shelter facility only
	overhaul				X		4	By component
AMPLIFIER GROUP OA-1390/GRC	test							For authorized allowances see TM 11-5820-278-12P
AMPLIFIER GROUP OA-1392/GRC	test							For authorized allowances see TM 11-5820-279-12P
AMPLIFIER GROUP OA-1394/GRC	test							For authorized allowances see TM 11-5820-282-12P
AMPLIFIER GROUP OA-1396/GRC	test							For authorized allowances see TM 11-5820-309-12P
ANTENNA GROUP OA-1389/GRC	test							For authorized allowances see TM 11-5820-302-12P
ANTENNA ACCESSORIES GROUP OA-1398/GRC	test							For authorized allowances see TM 11-5820-287-20
ANTENNA FILTER GROUP OA-1391/GRC	test							For authorized allowances see TM 11-5820-311-12P
ANTENNA FILTER GROUP OA-1393/GRC	test							For authorized allowances see TM 11-5820-312-12P
ANTENNA FILTER GROUP OA-1395/GRC	test							For authorized allowances see TM 11-5820-310-12P
ANTENNA FILTER GROUP OA-1397/GRC	test							For authorized allowances see TM 11-5820-293-12P
POWER ACCESSORIES GROUP OA-1676/GRC	test							For authorized allowances see TM 11-5820-303-12P
RADIO SET GROUP AN/TRA-25, AN/TRA-25A	test							For authorized allowances see TM 11-5820-457-12P

PART OR COMPONENT	MAINTENANCE FUNCTION	ECHELON O/C	O	DS	GS	D	TOOLS REQUIRED	REMARKS
AN/MRC-54(V) (continued)								
RADIO SET GROUP OA-1387/GRC	test							For authorized allowances see TM 11-5820-263-12P
RADIO SET GROUP OA-3668A/TRC-24	test							For authorized allowances see TM 11-5820-506-12P
ANTENNA AT-903/G	test							For authorized allowances see TM 11-5820-517-12P
REEL UNIT RL-31 B,C,D,E	test							For authorized allowances see TM 11-362
SHELTER, ELECTRICAL EQUIPMENT S-177/MRC-54(V)	inspect		X					
	test		X				1,4	Shelter continuity checks of power, signal and lighting circuits
					X		2,3,6	All tests
	repair		X				4,5	Except door panel, gaskets, skids, molding strips, lifting and toeing eyes
				X			4,5	Except skids, door panels
					X		4,5	All repairs
	rebuild					X	5	
	overhaul				X		4,5	
CABLE ASSEMBLIES, POWER	test		X				1	
	replace		X					
	repair		X				4	
				X			4	
CLOCK	replace		X					MOCOM item
EXTINGUISHER, FIRE	replace		X					Corps engineers responsibility
	recharge		X					Corps engineers responsibility
HEATER, ELECTRIC	test		X				1	
	replace		X				4	
	repair		X				4	
INTERCOMMUNICATION STATION LS-147A,B,C,D/FI	test							For authorized allowances see TM 11-5830-221-12
TELEPHONE SET TA-312/PT	test							For authorized allowances see TM 11-2155
GENERATOR, RINGING HAND G-42/PT, G-42A/PT	test							For authorized allowances see TM 11-5805-257-12P
HANDSET H-60/PT, H-165/U	test							For authorized allowances see TM 11-5965-224-15P

SECTION III. ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS	ECHELON					TOOL CODE	REMARKS
	O/C	O	DS	GS	D		
AN/MRC-54(V) (continued)							
MULTIMETER AN/URM-105		†				1	
MULTIMETER TS-352/U			†	†	†	2	
OHMMETER ZM-21A/U				†	†	3	
TOOL EQUIPMENT TE-123		†	†	†	†	4	
TOOL KIT, GENERAL MECHANIC (FSN 5180-754-0641)		†	†	†	†	5	
TOOLS AND TEST EQUIPMENT ASSOCIATED WITH COMPONENTS OF THIS EQUIPMENT		†	†	†	†	6	
NOTE: DEPOT MAY USE ANY OTHER TYPES OF TOOLS AND TEST EQUIPMENT REQUIRED TO OVERHAUL OR REBUILD THIS EQUIPMENT.							

APPENDIX IV

REPAIR PARTS AND SPECIAL TOOL LISTS

Section I. INTRODUCTION

1. General

a. This appendix includes an organizational and a direct and general support and depot maintenance special tools list.

(1) The organizational maintenance repair parts and special tools list shows the quantities of repair parts authorized for organizational maintenance and is a basis for requisitioning by organizations which are authorized the major item of equipment. End items of equipments are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

(2) The direct and general support and depot maintenance repair parts and special tools list shows the quantities of repair parts authorized for direct and general support maintenance and is a basis for requisitioning authorized parts. It is also a guide for depot maintenance in establishing initial levels of spare parts.

b. Columns are as follows:

(1) *Source, maintenance, and recoverability code.* Source, maintenance, and recoverability codes indicate the technical service responsible for supply, the maintenance category at which an item is stocked, categories at which an item is installed or repaired, and whether an item is repairable or salvageable. The source code column is divided into four parts.

(*a*) *Column A.* This column indicates the materiel code and designates the area of responsibility for supply. AR 310–1 defines the basic numbers used to identify the materiel code. If the part is Signal materiel responsibility, the column is left blank.

(*b*) *Column B.* This column indicates the point within the maintenance system where the part is available. "P" indicates that the repair part is a high mortality part; procured by technical services, stocked in and supplied from the technical service depot system, and authorized for use at indicated maintenance categories.

(*c*) *Column C.* This column indicates the lowest maintenance categories authorized to install the part.
"O"—Organizational maintenance (operator and organizational).
"F"—Direct support maintenance

(*d*) *Column D.* Not used.

(2) *Federal stock number.* This column lists the 11-digit Federal stock number.

(3) *Designation by model.* The dagger (†) indicates the model in which the part is used and further, by its position, designates the item numbers in which the item is identified, and/or the quantity used in each model where the quantity varies.

(4) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

(5) *Unit of issue.* The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

(6) *Expendability.* Nonexpendable items are indicated by NX. Expendable items are not annotated.

(7) *Quantity incorporated in unit.* This column lists the quantity of each part found in a given assembly, component, or equipment.

(8) *Organizational.* The quantities indicated in this column are maximum levels of repair parts authorized to be kept on hand by units performing organizational maintenance. The quantities are based on 100 equipments to be maintained for a 15-day period.

(9) *Direct support.* This column indicates quantities of repair parts authorized for initial stockage for use in the direct support maintenance and in supply support to organization. The quantities are based on 100 equipments to be maintained for a 15-day period.

(10) *General support.* The numbers in this column indicate quantities of repair parts authorized for initial stockage for use in general support maintenance. The quantities are based on 100 equipments to be maintained for a 15-day period.

(11) *Depot.* The numbers in this column indicate quantities of repair parts authorized for depot maintenance and for initial stockage for maintenance, and for supply support to lower categories. The entries are based on the quantity required for rebuild of 100 equipments.

(12) *Illustration.* The "Item No." column lists the reference designations that appear on the part in the equipment. These same designations are also used on any illustrations of the equipment. The numbers in the "Figure No." column refer to the illustrations where the part is shown.

2. Parts for Maintenance

When this equipment is used by signal service organizations organic to the theater headquarters or communication zones to provide theater communications, those repair parts authorized up to and including general support are authorized for stockage by the organization operating this equipment.

3. Additional Repair Parts Authorization

An asterisk (*) in the column titled "15 Day Maintenance Allowance per 100 Equipments" indicates that an item is not authorized for stockage but if required, may be requisitioned for immediate use only.

4. Requisitioning Information (Organizational)

a. The allowance factors are based on 100 equipments. In order to determine the number of parts authorized for the specific number of equipments supported, the following formula will be used and carried out to two decimal places.

$$\text{Specific number of equipments supported} \times \frac{\text{allowance factor}}{100} = \text{Number of parts authorized.}$$

b. Fractional values obtained from above computation will be rounded to whole numbers as follows:

(1) When the total number of parts authorized is less than one, the quantity authorized will be one.

(2) For all values above, one fractional values below 0.5 will revert to the next lower number, fractional values of 0.5 or larger will advance to the next higher whole number.

c. The number of parts authorized, determined after application of *a* and *b* above, represent one prescribed load for a 15-day period. The items and computed quantities thereof must be on hand or on order at all times.

d. Major commanders will determine the number of prescribed loads organizational units will carry. Unit and organizationals authorized additional prescribed loads will utilize the formula explained in *a* above but will multiply the number of equipments supported

by the number of authorized prescribed loads before completing the formula. Fractional values will be rounded to whole numbers as described above.

5. Requisitioning Information (DS and GS)

a. The allowance factors are based on 100 equipments. In order to determine the number of parts authorized for initial stockage for the specific number of equipments supported, the following formula will be used and carried out to two decimal places.

Specific number of equipments supported

$$\text{X} \ \frac{\text{allowance factor}}{100} =$$

Number of parts authorized for initial stockage.

b. Fractional values obtained from above computation will be rounded to whole numbers as follows:

(1) When the total number of parts authorized is less than 0.5, the quantity authorized will be zero.

(2) When the total number of parts authorized is between 0.5 and 1.0, the quantity authorized will be one.

(3) For all values above, one fractional values below 0.5 will revert to the next lower whole number and fractional value 0.5 and above will advance to the next higher whole number.

(4) When the allowance factor listed in the direct support column is in parentheses ( ), a quantity of one is authorized for initial stockage even though the computed quantity is less than 0.5. This equipment is combat essential.

c. The quantities determined in accordance with the above computation represent the initial stockage for a 15-day period.

Section II. ORGANIZATIONAL FUNCTIONAL PARTS LIST

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL 1	2	3	4	5	6	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGAN-IZATIONAL	ILLUSTRATION FIGURE NO.	ILLUSTRATION ITEM NO.
							REPEATER SET, RADIO AN/MRC-54(V)						
5820-542-7297							REPEATER SET, RADIO AN/MRC-54(V): An air or vehicular-transportable radio repeater or terminal set. It includes components of three radio sets used as a radio repeater between terminals such as AN/MRC-69(V) or AN/MRC-73. When connected to AN/MCC-9 or AN/MCC-6 it can be operated as radio terminal.					1-1	
							SHELTER, ELECTRICAL EQUIPMENT S-177/MRC-54(V); S-177A, B, C, D, E/MRC-54(V)					1-3	
							NOTE: Model Column 1 refers to S-77/MRC-54(V), Column 2 refers to S-177A/MRC-54(V), Column 3 refers to S-177B/MRC-54(V), Column 4 refers to S-177C/MRC-54(V), Column 5 refers to S-177D/MRC-54(V), Column 6 refers to S-177E/MRC-54(V)						
5935-577-8804	†	†	†	†	†	†	ADAPTER, CONNECTOR UG-1312/U: Sig dwg SM-B-335347			2	(1.0)	6-1	
6625-892-5315	†	†	†	†	†	†	AMMETER: MIL type MR36WO50SPECR; Sig dwg SM-B-364336			1	(1.3)	4-5	M1
4210-727-8111	†	†	†	†	†	†	AXE, SINGLE BIT: 2 lb head; Fed Spec GGG-A-926B, type 1, class 2			1	*	6-1	
6250-512-6250	†						BALLAST, LAMP: u/w flourescent lamp; GE part No. 89G381			7	*	4-7	
6250-804-3449		†	†	†	†	†	BALLAST, LAMP: u/w flourescent lamp; GE part No. 89G457-D			7	*	4-7	
5975-688-4625	†						BUSHING, ELECTRICAL CONDUCTOR: u/w heater; Northern Elec part No. 891			1	*	4-3	
5975-682-0461	†	†	†	†	†	†	BUSHING, ELECTRICAL CONDUCTOR: u/on conduit assy; AH and H part No. 112			2	*		
6145-164-6948	†						CABLE, POWER, ELECTRICAL: p/o heater HD-375/U: Canada Wire and Cable type HPD (Authorized allowances will be a minimum of or a multiple of 6 ft)	ft		6	*	4-3	
6145-752-2562		†	†	†	†	†	CABLE, POWER, ELECTRICAL: f/heater 2 cont; GE part No. S1-5324 type No. 65/.0063 (Authorized allowances will be a minimum or a multiple of 6 ft)	ft		6	*	4-1	
6145-682-3347	†	†	†	†	†	†	CABLE, POWER, ELECTRICAL: p/o Cable Assy CX-4772/U; MIL type C002LGF(2/18)0312 (Authorized allowances will be a minimum of or a multiple of 12 ft)	ft		12	*	1-9	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL 1	2	3	4	5	6	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGAN-IZATIONAL	ILLUSTRATION FIGURE NO.	ILLUSTRATION ITEM NO.
							AN/MRC-54(V) (continued)						
6145-752-2473	†	†	†	†	†	†	CABLE, POWER, ELECTRICAL: p/o Cable Assy CX-4694A/U and CX-2254/U 3 conductor; 2 conductors #6 AWG, 1 conductor #8 awg; Sig dwg SC-A-46608	ft		100	*	1-8	
6145-161-0887	†	†	†	†	†	†	CABLE, RADIO FREQUENCY RG-8A/U: (Authorized allowances will be a minimum of or a multiple of 140 ft)	ft		140	*	6-1	
6145-669-6522	†	†	†	†	†	†	CABLE, TELEPHONE: p/o Cable Assy CX-1606/U; MIL type type WF-8/G (Authorized allowances will be a minimum	ft		6	*	1-9	
5940-254-2244	†	†	†	†	†	†	CAP, ELECTRICAL: u/w binding posts; Eby part No. 9766-25			12	*		
5910-553-6096	†	†	†	†	†	†	CAPACITOR, FIXED, PAPER DIELECTRIC: u/w 15w flourescent-lamp; 2 sect 10,000 uuf ±10%; 1 sect 100,000 uuf ±10%; Sig dwg SC-C-33033-4			7	*	4-7	C1 thru C7
4010-514-4267	†	†	†	†	†	†	CHAIN, BEAD: connects cable holder to wall; Bead Chain part No. 10; Sig dwg SM-B-364346 (Authorized allowances will be a minimum of or a multiple of 4 ft)	ft		4	*		
5925-682-1061	†						CIRCUIT BREAKER: 15 amps; Square D type QO; Sig dwg SM-B-364359			12	(7.5)	4-5	CB1 thru CB12
5925-682-1061		†	†	†	†	†				4	(2.0)	4-5	CB3,4,9, 10
5925-815-6657		†	†	†	†	†	CIRCUIT BREAKER: 15 and 15 amps; Tandem; Square D type QO-1515			4	(2.0)	4-5	CB2,5,8, 11
5925-682-1071	†	†	†	†	†	†	CIRCUIT BREAKER: 50 amps; Square D type QO; Sig dwg SM-B-364358			1	(1.0)	4-5	CB13
5935-682-1070	†	†	†	†	†	†	CLAMP, ELECTRICAL: Burndy cat. No. 50 part No. KS-17; Sig dwg SM-B-364420			3	*		
5940-049-8791	†	†	†	†	†	†	CLIP, SPRING, TENSION: retains tube extractors and spare sockets; Littlefuse part No. 107002 type XX; Si dwg SM-B-364958			4	*	1-10	
5340-682-2217	†	†	†	†	†	†	CLIP, SPRING TENSION: retains hooks and end wrench; Terry and Sons part No. 80.000; Sig dwg SM-B-364923			4	*	1-10	
5340-727-7646	†	†	†	†	†	†	CLIP, SPRING TENSION: retain screwdriver; Sig dwg SM-B-363846			1	*	1-10	
5340-682-1826	†	†	†	†	†	†	CLIP, SPRING TENSION: holds spare lamps in place Sig dwg SM-B-335533			6	*	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL 1	2	3	4	5	6	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGANIZATIONAL	ILLUSTRATION FIGURE NO.	ILLUSTRATION ITEM NO.
							AN/MRC-54(V) (continued)						
5940-195-9698	†	†	†	†	†	†	CLIP, SPRING TENSION: holds dipoles, table legs, and spare starters; Littlefuse part No. 109002 type XX			152	*	6-1	
6645-526-4395	†	†	†	†	†	†	CLOCK, AIRCRAFT, MECHANICAL (NOTE: When replacing clock retain mounting bracket)		NX	1	*	6-1	
6675-264-3994	†	†	†	†	†	†	COMPASS, MAGNETIC: dry; hunting case type; K and G type 5600-1/2			1	(1.0)	1-9	
5935-518-9653	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL UP-120M			2	(1.5)		P7
5935-429-5511		†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: f/heater; Hubbel part No. 7102			1	(1.0)	4-1	P1
5935-660-4302	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: UG-573A/U;			6	(3.1)	6-3	P1 thru P6
5935-088-5887	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: p/o Cable Assy CX-4694A/U; Sig dwg SC-B-76446-2 (male)			1	(1.0)	1-8	P8
5935-149-3054	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: p.o Cable Assy CX4773/U; Hubbell type No. 7101			1	(1.0)	1-9	P9
5935-149-3666	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: p/o Cable Assy CX-4772/U; Hubbell part No. 7555			1	(1.0)	1-9	P11
5935-892-9176	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: p/o Cable Assy CX-4694A/U; Sig C dwg SC-B-76446-1 (Female)			1	(1.0)	1-8	P10
5935-257-6397	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL: outlet f/radio equip. Hubbell type No. 7410-B			6	(3.1)	6-4	J15 thru J20
5935-549-3562	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL: outlet on conduit assy; Hubbell part No. 9200			2	(1.5)	6-4	J24,J25
5935-359-6025	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL: f/heater and intercom; Hubbell type No. 9210			2	(1.5)	6-4	J14,J23
5935-702-0127	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL UG-570/U			6	(3.1)	6-3	J4 thru J9
5935-537-4253	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL: power-in on distribution box; Amphenol part No. 89-232-2P			1	(1.0)	6-4	J13

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGANIZATIONAL	ILLUSTRATION	
	1	2	3	4	5	6						FIGURE NO.	ITEM NO.
							AN/MRC-54(V) (continued)						
5935-666-4512	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL: power-out on distribution box; Amphenol part No. 89-232-2S			1	(1.0)	6-4	J12
5935-257-6374	†	†	†	†	†	†	CONNECTOR, RECEPTACLE, ELECTRICAL U-121A/U:			3	(1.9)	6-3	J1,J2,J3
5995-681-8470	†	†	†	†	†	†	CORD ASSEMBLY, ELECTRICAL CX-4695/U: (2 ft) Sig dwg SC-DL-370292			1	(1.0)	1-9	
4030-805-1068	†	†	†	†	†	†	COUPLING, BEAD CHAIN: 1/2 in lg; f/1/8 in dia chain; Bead Chain part No. 10-A std; Sig dwg SM-B-364347			2	*		
5935-729-0778	†	†	†	†	†	†	COVER, ELECTRICAL CONNECTOR: u/on connector of distribution box; Cannon part No. CE-9176; Sig dwg SM-B-370076			2	*		
7230-682-2032					†		CURTAIN: f/blackout purposes, left hand side; Sig dwg SM-D-464172-GR I			1	(1.0)	6-1	
7230-682-2045					†		CURTAIN: f/blackout purposes, right hand side; Sig dwg SM-D-464172-RG II			1	(1.0)	6-1	
7230-765-2351	†	†	†	†		†	CURTAIN, BLACKOUT: 12 brass female fasteners; 74 in lg x 70 in w; Sig dwg SM-D-365465			1	(1.0)	6-1	
5120-452-8862	†	†	†	†	†	†	EXTRACTOR, ELECTRON TUBE: 7 pin; Sig dwg SM-B-364370			1	*	1-10	
5120-293-2692	†	†	†	†	†	†	EXTRACTOR, ELECTRON TUBE: 9 pin; Econ Fuse part No. TP9; Sig dwg SM-B-364371			1	*	1-10	
4030-267-7024	†	†	†	†	†	†	FASTNER, BEAD CHAIN: joins chain to cable reel holder;			3	*		
6210-686-5568	†	†	†	†	†	†	GLOBE, ELECTRIC LIGHT: u shape; f/flourescent lamp; Sig dwg SM-B-335531			7	(2.6)	4-7	
5120-752-8859	†	†	†	†	†	†	GRIP, CABLE, WOVEN: 8 in lg; Economy Cable Grip part No. ESR-9			2	*	1-9	
5120-776-9917	†	†	†	†	†	†	GRIP, CABLE, WOVEN: 16 in lg; Economy Cable Grip part No. EQA-6-8P			5	*	1-8	
5120-251-4489		†	†	†	†	†	HAMMER, HAND: 8 lb; Wooding-Verona Tool Works part No. 15			1	*	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL 1	2	3	4	5	6	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGANIZATIONAL	ILLUSTRATION FIGURE NO.	ILLUSTRATION ITEM NO.
							AN/MRC-54(V) (continued)						
5975-682-0519	†	†	†	†	†	†	HANGER, CABLE: used to retain cable; ring type; 5-3/4 in lg REP dwg No. F44441			2	*	1-9	
5820-706-7185	†						HEATING ELEMENT, ELECTRICAL: u/w heater HD-375/U; Vulcan Electric part No. A22/5007/1			1	(1.0)	4-3	
4540-404-9232		†	†	†	†	†	HEATING ELEMENT, ELECTRICAL: f/heater; 110v; 1.5 kw; Electromode part No. 3954-E			1	(1.0)	4-1	
3895-726-4827	†	†	†	†	†	†	HOLDER, CABLE REEL: 15-3/8 in lg x 1/2 in dia; Sig dwg SM-B-364288			1	*	6-1	
5820-706-3036	†	†	†	†	†	†	HOOK: to stretch springs which retain radio components Sig dwg SM-B-364049			2	*	1-10	
4140-965-1157					†		IMPELLER: w/righthand exhaust fan; CCW rotation Sig dwg SM-C-373543-2			1	(0.8)		
4140-051-4595					†		IMPELLER: f/left hand exhaust fan; CW rotation; Sig dwg SM-C-473543-1			1	(0.8)		
4140-765-7748	†						IMPELLER, FAN AXIAL: p/o heater HD-375/U; Torrington part No. OU-720-5			1	(0.8)	4-3	
4520-792-8398		†	†	†	†	†	IMPELLER, FAN AXIAL: f/heater; Torrington part No. 20			1	(0.8)	4-1	
5940-770-8276	†	†	†	†	†	†	INSULATION, CAP: u/w wire splice; Thomas and Betts part No. PT6-M; Sig dwg SM-B-364353			14	*		
5330-682-4623	†	†	†	†	†	†	INSULATOR, BUSHING: mts and insulates jack; 0.78 in od x 0.50 in id; Mack Molding part No. M-102; Sig dwg SM-B-335556			2	*		
5970-681-9896	†	†	†	†	†	†	INSULATOR, BUSHING: mts and insulates jacks; 0.74 in od x 0.49 in id; Mack Molding part No-101; Sig dwg SM-B-335557			2	*		
5935-283-1269	†	†	†	†	†	†	JACK, TELEPHONE JJ-034:			2	(0.8)	6-3	J10,J11
5355-682-6806	†						KNOB: on-off knob on heater HD-375/U; Harry Davis Mold type No. 1600			1	(0.8)	4-3	
2540-892-6243	†	†	†	†	†	†	LADDER, VEHICLE BOARDING MX-3391/G:			1	*	6-1	

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL 1	2	3	4	5	6	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGAN-IZATIONAL	ILLUSTRATION FIGURE NO.	ILLUSTRATION ITEM NO.
							AN/MRC-54(V) (continued)						
6240-538-8447	†	†	†	†	†	†	LAMP, FLOURESCENT: GE part No. F20T12/CW			1	*	6-4	DS13 and DS15 thru DS20
6240-223-9104	†	†	†	†	†	†	LAMP, GLOW: MIL type NE-40			1	(1.3)	1-11	DS14
6240-270-4286	†	†	†	†	†		LAMP, GLOW: MIL type NE-21			12	(6.7)	4-5	DS1 thru DS12
6240-179-1814						†	LAMP, GLOW: MIL type NE-45:			12	(6.7)	4-5	DS1 thru DS12
6240-155-7786	†	†	†	†	†	†	LAMP, INCANDESCENT: f/lantern; GE part No. PR-2			1	*	1-11	
6250-299-6093	†	†	†	†	†	†	LAMPHOLDER: f/flourescent lamp; GE part No. 78X491			7	(1.6)	4-7	
6250-174-4684	†	†	†	†	†	†	LAMPHOLDER: socket f/flourescent lamp and starter; GE part No. 78X736			7	(1.6)	4-7	
6250-682-3463	†	†	†	†	†	†	LAMPHOLDER: Circle FMfg Co part No. 246			1	(0.5)	6-4	XDS14
6250-682-3462	†	†	†	†	†		LAMPHOLDER: f/indicator glow lamp; Drake part No. 50N, 1300 series			12	(2.0)	4-5	XDS1 thru XDS12
6250-782-9040						†	LAMPHOLDER: f/glow lamps; Dialco part 7-74-18			12	(2.0)	4-5	XDS1 thru XDS12
6230-729-9614	†	†	†	†	†	†	LANTERN, ELECTRIC: 6v; Justrice Model No. 2106-7			1	*	1-4	
5410-752-2525	†	†	†	†	†	†	LEAD ELECTRICAL: f/ground connection; Sig dwg SM-B-352166C			1	*	1-9	
5325-290-4345	†	†	†	†	†	†	LOCKSPRING, TURNLOCK FASTENER: u/on distribution box, filter cover and antenna mast support holder; Dzus part No. S6-275; Sig dwg SM-B-370529			10	*		
5325-355-8963					†		LOCKSPRING, TURNLOCK FASTENER: u/on lantern brkt; Dzus part S4-200			3	*		
5325-285-3391	†	†	†	†	†	†	LOCKSPRING, TURNLOCK FASTENER: u/on air-filter screen, storage, cabinet and ventillator cover; Dzus part No. S5-225			6	*		

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FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGAN-IZATIONAL	ILLUSTRATION	
	1	2	3	4	5	6						FIGURE NO.	ITEM NO.
							AN/MRC-54(V) (continued)						
5325-285-3371	†	†	†	†	†	†	LOCKSPRING, TURNLOCK FASTENER: u/o axe, sw box, grd rod, lantern and chair holders; Dzus part No. S4-225			8	*		
6105-561-6321	†	†	†	†	†	†	MOTOR, ALTERNATING CURRENT: exhaust fan; Delco part No. A8265M1; Sig dwg SM-B-363853		NX	2	(1.5)		
6105-726-8684	†						MOTOR, ALTERNATING CURRENT: f/heater: GE Serial No. 5KSP51AL24C: Sig dwg SM-B-364945		NX	1	(1.0)	4-3	
6105-560-5739		†	†	†	†	†	MOTOR, ALTERNATING CURRENT: f/heater; GE part 5KSP51AL74			1	(1.0)	4-1	
5940-223-5293	†	†	†	†	†	†	POST, BINDING U-106/U: Sig dwg SC-C-16495			12	*	6-3	E1A, E1B thru E6A and E6B
8130-656-1090	†	†	†	†	†	†	REEL CABLE RC-435/U:		NX	1	*	1-8	
5410-783-6250	†	†	†	†	†	†	REPAIR KIT, ELECTRICAL EQUIPMENT SHELTER MK-680/G: f/ parching holes in skin of shelter (Note: item to be requestioned for immediate use only, order direct from depot stock)			1	*		
5905-201-6739	†	†	†	†	†	†	RESISTOR, FIXED, COMPOSITION: 30,000 ohm, 1/2w, ±5%; MIL type RC09HG303J			12	(3.6)	6-4	R1 thru R12
5975-224-5260	†	†	†	†	†	†	ROD, GROUND MX-148/G:			1	(2.6)	6-1	
5940-802-3771	†	†	†	†	†	†	SPLICE, WIRE, ELECTRICAL: Thomas and Betts part No. PT60M; Sig dwg SM-B-370096			14	*		
6250-299-2884	†	†	†	†	†	†	STARTER, FLOURESCENT LAMP: GE part No. FS-2			7	(4.8)	1-11	
5325-290-2890	†	†	†	†	†	†	STUD, SNAP FASTENER: United Carr part No. 559			22	*		
5325-724-2729	†	†	†	†	†	†	STUD, TURNLOCK FASTENER: Camloc part No. 91S2-6W0			20	*		
5325-753-3735	†	†	†	†	†	†	STUD, TURNLOCK FASTENER: u/on storage cabinet Dzus part No. AC-40			2	*		
5325-290-2898	†	†	†	†	†	†	STUD, TURNLOCK FASTENER: u/on distribution box, vent and iilter covers; Dzus part No. AN5-35-U/WX105 wing			6	*		
5930-705-9151	†						SWITCH, ROTARY: p/o heater HD-375/U: Ark-Less part No. 2800H41			1	(1.0)	4-3	S1

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	ORGAN-IZATIONAL	ILLUSTRATION	
	1	2	3	4	5	6						FIGURE NO.	ITEM NO.
							AN/MRC-54(V) (continued)						
5930-669-7465	†	†	†	†	†	†	SWITCH, SENSITIVE: blackout sw on door; MIL type SS02B20; Sig dwg SM-B-364515			1	(1.3)	6-4	S3
5930-682-0349	†						SWITCH, THERMOSTATIC: f/temperature control of heater HD-375/U; Wilcolator Co part No. 3381, type G1, Spec 4142			1	(0.8)	4-3	S3
5930-707-1313	†						SWITCH, THERMOSTATIC: f/manual reset of heater HD-375/U; Stevens Mfg Co. type SM-4			1	0.8	4-3	S2
5930-734-5202		†	†	†	†	†	SWITCH, THERMOSTATIC: f/heater; C-H part 10172H334A			1	0.8	4-1	S3
5930-504-9923		†	†	†	†	†	SWITCH, TOGGLE: f/heater; dpdt; C-H part No. 7563K4			1	(1.0)	4-1	S1
5930-636-4014	†	†	†	†	†	†	SWITCH, TOGGLE: GE part No. GE5521-1			4	(2.0)	6-1	S2 thru S5
5210-221-1882	†	†	†	†	†	†	TAPE, MEASURING: steel; 100 ft; Lufkin type C-256		NX	1	(1.0)	1-9	
5940-636-5766	†	†	†	†	†	†	TERMINAL, LUG: u/in distribution box; Burndy part No. YAV6C-L1			3	*		
5940-702-7256	†	†	†	†	†	†	TERMINAL, LUG: Burndy part No. KPA25/W mod			3	*		
5940-681-9807	†	†	†	†	†	†	TERMINAL, STUD: grd stud; Sig dwg SM-B-363337			1	*	6-4	E13
6680-793-9575		†	†	†	†	†	THERMOSTAT: f/heater; bimetallic type; White Rogers part No. H-2727A			1	(0.8)	4-1	
5950-892-8224	†	†	†	†	†	†	TRANSFORMER, CURRENT: Stark Elect part No. 1623; Sig dwg SM-B-364365			1	(1.0)	4-5	T1
6625-883-4272	†	†	†	†	†	†	VOLTMETER: MIL type MR36W150ACVVR			1	(1.3)	4-5	M2
5310-630-0868	†	†	†	†	†	†	WASHER, THRUST: Camlock part No. 91S3-1			24	*		
5120-752-8861	†	†	†			†	WRENCH, DRAIN PLUG: Sig dwg SM-B-370021			1	*	6-1	

SOURCE CODE	FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
A B C D											
	5820-542-7297		REPEATER SET, RADIO AN/MRC-54(V): an air or vehicular transportable radio repeater or terminal set. It includes components of three radio sets. Used as a radio repeater between terminals such as AN/MRC-69(V) or AN/MRC-73. When connected to AN/MCC-9 or AN/MCC-6 it can be operated as a radio terminal		NX					1-1	
			SHELTER, ELECTRICAL EQUIPMENT S-177/MRC-54(V) S-177A,B,C,D,E/MRC-54(V)							1-3	
			NOTE: Model Column 1 refers to S-177/MRC-54(V); Column 2 refers to S-177A/MRC-54(V); Column 3 refers to S-177B/MRC-54(V); Column 4 refers to S-177C/MRC-54(V); Column 5 refers to S-177D/MRC-54(V); Column 6 refers to S-177E/MRC-54(V).								
P O	5935-577-8804	† † † † † †	ADAPTER, CONNECTOR UG-1312/U: Sig dwg SM-B-335345			2	(0.5)	0.2	10.0	6-1	
P O	6625-892-5315	† † † † † †	AMMETER: MIL type MR36W050SPECR; Sig dwg SM-B-364336			1	(0.7)	0.3	5.0	4-5	M1
P O	4210-727-8111	† † † † † †	AXE, SINGLE BIT: 2 lb head; Fed Spec GGG-A-926B, type 1, Class 2			1	0.7	0.3	5.0	6-1	
P O	6250-512-6250	†	BALLAST, LAMP: u/w flourescent lamp; GE part #89G381			7	1.6	0.5	14.0	4-7	
P O	6250-804-3449	† † † † † †	BALLAST, LAMP: u/w flourescent lamp; GE part #89G457D			7	1.6	0.5	14.0	4-7	
P O	5975-688-4625	†	BUSHING, ELECTRICAL CONDUCTOR: u/w heater; Northern Elec part #891			1	0.4	0.1	2.0	4-3	
P O	5975-682-0461	† † † † † †	BUSHING, ELECTRICAL CONDUCTOR: u/on conduit assy; AH and H part #112			2	0.6	0.2	4.0		
P O	6145-164-6948	†	CABLE, POWER, ELECTRICAL: p/o heater HD-375/U; Canada Wire and Cable type HPD (Authorized allowances will be a minimum of or a multiple of 6 ft)	ft		6	12.0	6.0	60.0	4-3	

SOURCE CODE	FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
A B C D			AN/MRC-54(V) (continued)								
P O	6145-752-2562	† † † † †	CABLE, POWER, ELECTRICAL: f/heater; 6 in lg o/a; 2 cond; GE part #S1-5325 type #65/.0063 (Authorized allowances will be a minimum of or a multiple of 6 ft)	ft		6	12.0	6.0	60.0	4-1	
P O	6145-682-3347	† † † † † †	CABLE, POWER, ELECTRICAL: p/o Cable Assy CX-4772/U; MIL type C002LGF(2/18)0312 (Authorized allowances will be a minimum of or a multiple of 12 ft)	ft		12	24.0	6.0	120.0	1-9	
P O	6145-752-2473	† † † † † †	CABLE, POWER, ELECTRICAL: p/o CABLE ASSY CX-4694A/U: 3 conductors; 2 conductors #6AWG, 1 conductor #8 AWG; Sig dwg SC-A-46608 (Authorized allowances will be a minimum of or a multiple of 100 ft)	ft		100	200.0)	*	1000.0	1-8	
P O	6145-161-0887	† † † † † †	CABLE, RADIO FREQUENCY RG-8A/U: (Authorized allowances will be a minimum of or a multiple of 140 ft)	ft		140	280.0)	*	1400.0	6-1	
P O	6145-669-6522	† † † † † †	CABLE, TELEPHONE: p/o Cable Assy CX-4719/U: MIL type WF-8/G (Authorized allowances will be a minimum of or a multiple of 6 ft)	ft		6	12.0	6.0	60.0	1-9	
P O	5940-254-2254	† † † † † †	CAP, ELECTRICAL: u/w binding posts; Eby part #9766-25			12	1.2	0.3	120.0		
P O	5910-553-6096	† † † † † †	CAPACITOR, FIXED, PAPER DIELECTRIC: u/w 15w flourescent lamp; 2 sect; 10,000 uuf ±10%; 1 sect 100,000 uuf ±10%; Sig dwg SC-C-33033-4			7	2.0	0.6	42.0	4-7	C1 thru C7
P O	4010-514-4267	† † † † † †	CHAIN, BEAD: connects cable holder to wall; Bead Chain part #10; Sig dwg SM-B-364346 (Authorized allowances will be a minimum of or a multiple of 4 ft)	ft		4	1.0	0.2	40.0		

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
A	B	C	D															FIGURE NO.	ITEM NO.
											AN/MRC-54(V) (continued)								
	P	O		5925-682-1061	†						CIRCUIT BREAKER: 15 amp; Square D type QO; Sig dwg SM-B-364359			12	(3.1)	2.1	72.0	4-5	CB1 thru CB12
	P	O		5925-682-1061		†	†	†	†	†				4	(1.2)	0.3	24.0	4-5	CB3,4,9, 10
	P	O		5925-815-6657		†	†	†	†	†	CIRCUIT BREAKER: 15 and 15 amps; Fandem; Square D type QO-1515			4	(1.2)	0.3	24.0	4-5	CB2,5,8, 11
	P	O		5925-682-1071	†	†	†	†	†	†	CIRCUIT BREAKER: 50 amps; Square D type QO; Sig dwg SM-B-364358			1	(0.5)	0.2	6.0	4-5	CB13
	P	O		5935-682-1070	†	†	†	†	†	†	CLAMP, ELECTRICAL: Burndy Cat #50 part #KS-17; Sig dwg SM-B-364420			3	0.5	0.2	9.0		
	P	O		5940-049-8791	†	†	†	†	†	†	CLIP, SPRING TENSION: retains tube extractors and spare socket; Littelfuse part #107002 type XX; Sig dwg SM-B-364958			4	0.6	0.2	40.0	1-10	
	P	O		5340-682-2217	†	†	†	†	†	†	CLIP, SPRING TENSION: retains hooks and end wrench; Terry and Sons part #80/000; Sig dwg SM-B-364923			4	0.6	0.2	40.0	1-10	
	P	O		5340-727-7646	†	†	†	†	†	†	CLIP, SPRING TENSION: retains screw-driver; Sig dwg SM-B-363846			1	0.3	0.1	10.0	1-10	
	P	O		5340-682-1826	†	†	†	†	†	†	CLIP, SPRING TENSION: holds in place; Sig dwg SM-B-335533			6	0.8	0.3	60.0	6-1	
	P	O		5940-195-9698	†	†	†	†	†	†	CLIP, SPRING TENSION: holde dipoles, table legs, and spare starters; Littelfuse part #109002 type XX			152	10.0	4.5	1520.0	6-1	
	P	O		6645-526-4395	†	†	†	†	†	†	CLOCK, AIRCRAFT, MECHANICAL: (NOTE: When replacing Clock retain mounting bracket)			1	0.5	0.2	5.0	6-1	
	P	O		6675-264-3994	†	†	†	†	†	†	COMPASS, MAGNETIC: dry; hunting case type; K and E type #5600-1/2			1	(0.5)	0.2	5.0	1-9	
	P	O		5935-518-9653	†	†	†	†	†	†	CONNECTOR, PLUG, ELECTRICAL: UP-120M			2	(0.8)	0.3	10.0		P7

SOURCE CODE	FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
A B C D			AN/MRC-54(V) (continued)								
P O	5935-429-5511	† † † † †	CONNECTOR, PLUG, ELECTRICAL: f/heater; Hubbell part 7102			1	(0.5)	0.2	5.0	4-1	P1
P O	5935-660-4302	† † † † † †	CONNECTOR, PLUG, ELECTRICAL UG-573A/U			6	(2.0)	0.6	30.0	6-3	P1 thru P6
P O	5935-088-5887	† † † † † †	CONNECTOR, PLUG, ELECTRICAL: p/o Cable Assy CX-4694A/U; Sig dwg SC-B-76446-2 (Male)			1	(0.5)	0.2	5.0	1-8	P8
P F	5935-577-0302	† † † † † †	CONNECTOR, PLUG, ELECTRICAL U-176/G P/O CX-1606/U			4	(1.2)	0.3	20.0		P12 thru P15
P O	5935-149-3054	† † † † † †	CONNECTOR, PLUG, ELECTRICAL: p/o Cable assy CX-4773/U; Hubbell type #7101			1	(0.5)	0.2	5.0	1-9	P9
P O	5935-149-3666	† † † † † †	CONNECTOR, PLUG, ELECTRICAL: p/o Cable Assy CX-4772/U; Hubbell part #7555			1	(0.5)	0.2	5.0	1-9	P11
P O	5935-892-9176	† † † † † †	CONNECTOR, PLUG, ELECTRICAL: p/o Cable Assy CX-4694A/U; Sig dwg SC-B-76446-1 (Female)			1	(0.5)	0.2	5.0	1-8	P10
P O	5935-257-6397	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL: outlet f/AN/TRC-24; Hubbell type #7410-B			6	(2.0)	0.6	30.0	6-4	J15 thru J20
P O	5935-549-3562	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL: outlet on conduit assy; Hubbell part #9200			2	(0.8)	0.3	10.0	6-4	J24,J25
P O	5935-359-6025	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL: f/heater and intercom; Hubbell type #9210			2	(0.8)	0.3	10.0	6-4	J14,J23
P O	5935-702-0127	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL: UG-570/U			6	(2.0)	0.6	30.0	6-3	J4 thru J9
P O	5935-537-4253	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL: power-IN ON distribution box; Amphenol part #89-232-2P			1	(0.5)	0.2	5.0	6-4	J13
P O	5935-666-4512	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL: power-out on distribution box; Amphenol part #89-232-2S			1	(0.5)	0.2	5.0	6-4	J12

SOURCE CODE	FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
A B C D			AN/MRC-54(V) (continued)								
P O	5935-257-6374	† † † † † †	CONNECTOR, RECEPTACLE, ELECTRICAL U-121A/U			3	(1.1)	0.3	15.0	6-3	J1,J2,J3
P O	5995-681-8470	† † † † † †	CORD ASSEMBLY, ELECTRICAL CX-4695/U: (2 ft) Sig dwg SC-DL-370292			1	0.5	0.2	6.0	1-9	
P O	4030-805-1068	† † † † † †	COUPLING, BEAD CHAIN: 1/2 in lg;f/1/8 in dia chain; Bead Chain part #10-A std; Sigdwg SM-B-364347			2	0.4	0.1	2.0		
P O	5935-729-0778	† † † † † †	COVER, ELECTRICAL CONNECTOR: u/on connector of distribution box; Cannon part #CE-9176; Sig dwg SM-B-370076			2	0.6	0.2	2.0		
O	7230-682-2032	†	CURTAIN: f/blackout purposes, left hand side; Sig dwg SM-D-464172-GRI			1	(0.5)	0.2	3.0	6-1	
O	7230-682-2045	†	CURTAIN: f/blackout purposes, right hand side; Sig dwg SM-D-464172-GRII			1	(0.5)	0.2	3.0	6-1	
P O	7230-765-2351	† † † † †	CURTAIN, BLACKOUT: 12 brass female fasteners; 73 in lg x70 in w; Sig dwg SM-D-365465			1	(0.5)	0.2	3.0	6-1	
P F	5820-682-1465	†	DOOR ASSEMBLY: f/Sig-Pwr ent box; 15-13/16 x 15-13/16 x 15/16 h; Sig dwg SM-D-464149;			1	0.4	0.1	2.0	1-3	
P F	5820-706-3035	† † † † † †	DOOR ASSEMBLY: cover f/ventilator opening; 6-3/16 in lg x 8-1/16 w; Sig dwg SM-B-363530			2	0.6	0.2	4.0		
P F	5820-706-3037	† † † † † †	DOOR ASSEMBLY: f/ventilator opening; 20-9/16 in lg x 15-7/16 in w; Sig dwg SM-C-364364			1	0.4	0.1	2.0		
P F	5820-706-3044	† † † † †	DOOR ASSEMBLY: cover f/signal and power entrance box; 15-5/32 in h x 15-13/32 in w; Sig dwg SM-C-364404			1	0.4	0.1	2.0	1-3	
P O	5120-752-8862	† † † † † †	EXTRACTOR, ELECTRON TUBE: 7 pin; Sig dwg SM-B-364370			1	0.4	0.1	5.0	1-10	

SOURCE CODE	FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
A B C D			AN/MRC-54(V) (continued)								
P O	5120-293-2692	† † † † † †	EXTRACTOR, ELECTRON TUBE: 9 pin; Econ Fuse part #TP9; Sig dwg SM-B-364371			1	0.4	0.1	5.0	1-10	
P O	4030-267-7024	† † † † † †	FASTENER, BEAD CHAIN: joins chain to cable reel holder; Bead Chain part #10AD; Sig dwg SM-B-364618			3	0.5	0.2	3.0		
P F	5820-706-3045	† † † † † †	GASKET: f/distribution box; Sig dwg SM-B-335615 (Authorized allowances will be a minimum of or a multiple of 6 ft)	ft		6	*	12.0	18.0		
P F	5820-706-3046	† † † † † †	GASKET: f/ventilator door; Sig dwg SM-B-363391 (Authorized allowances will be a minimum of or a multiple of 2 ft)	ft		2	*	*	6.0		
P O	6210-686-5568	† † † † † †	GLOBE, ELECTRIC LIGHT: u shape; f/flourescent lamp; Sig dwg SM-B-335531			7	(1.6)	0.5	14.0	4-7	
P O	5120-752-8859	† † † † † †	GRIP, CABLE WOVEN: 8 in lg; Economy Cable Grip part ESR-9			2	2.0	0.6	40.0	1-9	
P O	5120-776-9917	† † † † † †	GRIP, CABLE WOVEN: 16 in lg; Economy Cable Grip part #EQA-6-8P			5	4.0	1.5	100.0	1-8	
P O	5120-251-4489	† † † † † †	HAMMER, HAND: 8 lb; Wooding-Verona Tool Works part #15			1	0.7	0.3	5.0	6-1	
P O	5975-682-0519	† † † † † †	HANGER, CABLE: used to retain cable; ring type 5-3/4 in lg; Sig dwg SM-B-363104			2	0.4	0.1	2.0	1-9	
P O	5820-706-7185	†	HEATING ELEMENT, ELECTRICAL: u/w heater HD-375/U; Vulcan Electric part #A22/5007/1			1	(0.5)	0.2	3.0	4-3	
P O	4540-404-9232	† † † † †	HEATING ELEMENT, ELECTRICAL: f/heater 110v, 1.5 kw; Electromode part #3954-E			1	(0.5)	0.2	3.0	4-1	
P O	3895-726-4827	† † † † † †	HOLDER, CABLE REEL: 15-3/8 in lg x 1/2 in dia; Sig dwg SM-B-364288			1	0.4	0.1	2.0	6-1	
P O	5820-706-3036	† † † † † †	HOOK: to stretch springs which retain radio components Sig dwg SM-B-364049			2	0.4	0.1	2.0	1-10	

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
																		FIGURE NO.	ITEM NO.
A	B	C	D								AN/MRC-54(V) (continued)								
	P	O		4140-965-1157					†		IMPELLER: f/right hand exhaust fan; ccw rotation; Sig dwg SM-C-373543-2			1	(0.4)	0.1	2.0		
	P	O		4140-051-4595					†		IMPELLER: f/left hand exhaust fan; cw rotation; Sig dwg SM-C-473543-1			1	(0.4)	0.1	2.0		
	P	O		4140-765-7748	†						IMPELLER, FAN, AXIAL: p/o heater HD-375/U; Torrington part #0U-720-5			1	(0.4)	0.1	2.0	4-3	
	P	O		4520-792-8398		†	†	†	†	†	IMPELLER, FAN, AXIAL: f/heater; Torrington part #20			1	(0.4)	0.1	2.0	4-1	
	P	O		5940-770-8276	†	†	†	†	†	†	INSULATION, CAP: u/w wire splice; Thomas and Betts part #PT6-M; Sig dwg SM-B-364353			14	1.6	0.5	140.0		
	P	O		5330-682-4623	†	†	†	†	†	†	INSULATOR, BUSHING: mts and insulates jacks; 0.78 in od x 0.50 in id; Mack Moding part #M-102; Sig dwg SM-B-335556			2	0.4	0.1	2.0		
	P	O		5970-681-9896	†	†	†	†	†	†	INSULATOR, BUSHING: mts and insulates jacks; 0.74 in od x 0.49 in id; Mack Molding part #M-101; Sig dwg dwg SM-B-335557			2	0.4	0.1	2.0		
	P	O		5935-283-1269	†	†	†	†	†	†	JACK, TELEPHONE JJ-034:			2	(0.4)	0.1	20.0	6-3	J10,J11
	P	O		5355-682-6806	†						KNOB: on-off knob on heater HD-375/U; Harry Davies Mold type #1600			1	(0.4)	0.1	5.0	4-3	
	P	O		2540-892-6243	†	†	†	†	†	†	LADDER, VEHICLE BOARDING MX-3391/G			1	0.7	0.3	5.0	6-1	
	P	O		6240-538-8447	†	†	†	†	†	†	LAMP, FLOURESCENT: GE part #F20T12/CW Item Nos. DS13 and DS15 thru DS20			7	5.2	2.1	350.0	6-4	See desc column
	P	O		6240-223-9104	†	†	†	†	†	†	LAMP, GLOW: MIL type NE-40			1	(0.7)	0.3	50.0	1-11	DS14
	P	O		6240-270-4286	†	†	†	†	†		LAMP, GLOW: MIL type NE-21			12	(2.8)	1.8	600.0	4-5	DS1 thru DS12

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
A	B	C	D															FIGURE NO.	ITEM NO.
											AN/MRC-54(V) (continued)								
	P	O		6240-179-1814						†	LAMP, GLOW: MIL type NE-45			12	(2.8)	1.8	600.0	4-5	DS1 thru DS12
	P	O		6240-155-7786	†	†	†	†	†	†	LAMP, INCANDESCENT: f/lantern; GE part #PR-2			1	1.2	0.3	50.0	1-11	
	P	O		6250-299-6093	†	†	†	†	†	†	LAMPHOLDER: f/flourescent lamp; GE part #78X491			7	(0.9)	0.4	35.0	4-7	
	P	O		6250-174-4684	†	†	†	†	†	†	LAMPHOLDER: socket f/flourescent lamp and starter; GE part #78X736			7	(0.9)	0.4	35.0	4-7	
	P	O		6250-682-3463	†	†	†	†	†	†	LAMPHOLDER: Circle F Mfg Co part #246			1	(0.3)	0.1	5.0	6-4	XDS14
	P	O		6250-682-3462	†	†	†	†	†		LAMPHOLDER: f/indicator glow lamp; Drake part #50N, 1300 series			12	(1.2)	0.3	60.0	XDS1 thru XDS12	
	P	O		6250-782-9040						†	LAMPHOLDER: f/glow lamps; Dialco part 7-74-18			12	(1.2)	0.3	60.0	4-5	
	P	O		6230-729-9614	†	†	†	†	†	†	LANTERN, ELECTRIC: 6v; Justrice Model #2106-7			1	0.7	0.3	10.0	6-1	
	P	O		5410-752-2525	†	†	†	†	†	†	LEAD, ELECTRICAL: f/ground connection Sig dwg SM-B-352166C			1	1.2	0.3	10.0	1-9	
	P	O		5324-290-4345	†	†	†	†	†	†	LOCKSPRING, TURNLOCK FASTENER: u/on distribution box, filter cover and Antenna Mast support holder; Dzus part #S6-275; Sig dwg SM-B-370529			10	1.2	0.3	100.0		
	P	O		5325-355-8963					†		LOCKSPRING, TURNLOCK FASTENER: u/on lantern brkt; Dzus part S4-200			3	0.5	0.2	3.0		
	P	O		5325-285-3391	†	†	†	†	†	†	LOCKSPRING, TURNLOCK FASTENER: u/on air filter screen, storage cabinet and ventilator cover; Dzus part #S5-225			6	0.8	0.3	60.0		
	P	O		5325-285-3371	†	†	†	†	†	†	LOCKSPRING, TURNLOCK FASTENER: u/on axe, sw box, grd rod, lantern and chair holders; Dzus part #S4-225			8	1.0	0.2	80.0		

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
A	B	C	D															FIGURE NO.	ITEM NO.
											AN/MRC-54 (V) (Continued)								
	P	O		6105-561-6321	†	†	†	†	†	†	MOTOR, ALTERNATING CURRENT: exhaust fan; Delco part No. A8265M1; Sig dwg SM-B-363853		NX	2	0.8	0.3	6.0		
	P	O		6105-726-8684	†						MOTOR, ALTERNATING CURRENT: f/heater; GE Serial No. 5KSP51AL24C; Sig dwg SM-B-364945		NX	1	(0.5)	0.2	3.0	4-3	
	P	O		6105-560-5739		†	†	†	†	†	MOTOR, ALTERNATING CURRENT: f/heater; GE part 5KSP51AL74			1	(0.5)	0.2	3.0	4-1	
	P	O		5940-223-5293	†	†	†	†	†	†	POST, BINDING U-106/U: Sig dwg SC-C-16495			12	1.2	0.3	120.0	6-3	E1A and E1B thru E6A and E6B
	P	O		8130-656-1090	†	†	†	†	†	†	REEL, CABLE RC-435/U:			1	0.4	0.1	2.0	1-8	
		O		5410-783-6250	†	†	†	†	†	†	REPAIR KIT, ELECTRICAL EQUIPMENT SHELTER MK-680/G: f/patching holes in skin of shelter								
	P	O		5905-201-6739	†	†	†	†	†		RESISTOR, FIXED, COMPOSITION: 30,000 ohm, 1/4 w, ±5%; MIL type RC09GF303J			12	(2.3)	0.8	50.0	6-4	R1 thru R12
	P	O		5975-224-5260	†	†	†	†	†	†	ROD, GROUND MX-148/G:			1	(1.6)	0.5	15.0	6-1	
	P	O		5940-802-3771	†	†	†	†	†	†	SPLICE, WIRE, ELECTRICAL: Thomas and Betts part No. PT60M; Sig dwg SM-B-370096			14	1.6	0.5	140.0		
	P	O		6250-299-2884	†	†	†	†	†	†	STARTER, FOURESCENT LAMP: GE part No. FS-2			7	(3.0)	1.0	70.0	1-11	
	P	O		5325-290-2890	†	†	†	†	†	†	STUD, SNAP FASTENER: United-Carr part No. 559			22	2.0	0.6	220.0		
	P	O		5325-729-2729	†	†	†	†	†	†	STUD, TURNLOCK FASTENER: Camloc part No. 91S2-6W0			20	2.0	0.6	200.0		
	P	O		5325-753-3735	†	†	†	†	†	†	STUD, TURNLOCK FASTENER: U/ON storage cabinet; Dzus part No. AC-40			2	0.4	0.1	2.0		
	P	O		5325-290-2898	†	†	†	†	†	†	STUD, TURNLOCK FASTENER: U/ON distribution box, vent and filter covers; Dzus part No. AN5-35-U/WX105 wing			6	0.8	0.3	60.0		

SOURCE CODE	FEDERAL STOCK NUMBER	DESIGNATION BY MODEL	DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
A B C D			AN/MRC-54 (V) (continued)								
P 0	5930-705-9131	†	SWITCH, ROTARY: p/o heater HD-375/U; Ark-less part No. 2800H41			1	(0.5)	0.2	3.0	4-3	SI

SOURCE CODE				FEDERAL STOCK NUMBER	DESIGNATION BY MODEL						DESCRIPTION	UNIT OF ISSUE	EXP	QTY IN UNIT	DIRECT SUPPORT	GENERAL SUPPORT	DEPOT	ILLUSTRATION	
A	B	C	D		1	2	3	4	5	6								FIGURE NO.	ITEM NO.
											AN/MRC-54(V) (continued)								
	P	0		5930-669-7465	†	†	†	†	†	†	SWITCH, SENSITIVE: blackout sw on 1 door; MIL type SS02B20; Sig dwg SM-B-364515			1	(0.7)	0.3	5.0	6-4	S3
	P	0		5930-682-0349	†						SWITCH, THERMOSTATIC: f/temperature control of heater, HD-375/U; Wilcolator Co part No. 3381, type G1, Spec 4142			1	(0.4)	0.1	2.0	4-3	S3
	P	0		5930-707-1313	†						SWITCH, THERMOSTATIC: f/manual reset of heater HD-375/U; Stevens Mfg Co. type SM-4			1	0.4	0.1	2.0	4-3	S2
	P	0		5930-734-5202		†	†	†	†	†	SWITCH, THERMOSTATIC: f/heater; C-H part 10172H334A			1	0.4	0.1	2.0	4-1	S3
	P	0		5930-504-9923		†	†	†	†	†	SWITCH, TOGGLE: f/heater; dpdt; C-H part No. 7563K4			1	(0.5)	0.2	3.0	4-1	S1
	P	0		5930-636-4014	†	†	†	†	†	†	SWITCH, TOGGLE: GE part No. GE 5521-1			4	(1.2)	0.3	12.0	6-1	S2 thru S5
	P	0		5210-221-1882	†	†	†	†	†	†	TAPE MEASURING: steel; 100 ft; Lufkin type C-256		NX	1	(0.5)	0.2	3.0	1-9	
	P	0		5940-636-5766	†	†	†	†	†	†	TERMINAL, LUG: u/in distribution box; Burndy part No. YAV6C-L1			3	0.5	0.2	30.0		
	P	0		5940-702-7256	†	†	†	†	†	†	TERMINAL, LUG: Burndy part No. KPA25/W mod			3	0.5	0.2	30.0		
	P	0		5940-681-9807	†	†	†	†	†	†	TERMINAL, STUD: grd stud; Sig dwg SM-B-363337			1	0.3	0.1	12.0	6-4	E13
	P	0		6680-793-9575		†	†	†	†	†	THERMOSTAT: f/heater; bimetallic type; White Rogers part No. H-2727-A			1	(0.4)	0.1	2.0	4-1	
	P	0		5950-892-8224	†	†	†	†	†	†	TRANSFORMER, CURRENT: Stark Elect part No. 1623; Sig dwg SM-B-364365			1	(0.5)	0.2	3.0	4-5	T1
	P	0		6625-883-4272	†	†	†	†	†	†	VOLTMETER: MIL type MR36W150ACVVR			1	(0.7)	0.3	5.0	4-5	M2
	P	0		5310-630-0868	†	†	†	†	†	†	WASHER, THRUST: Camloc part No. 91S3-1			24	2.3	0.8	240.0		
	P	0		5120-752-8861	†	†	†			†	WRENCH, DRAIN PLUG: Sig dwg SM-B-370021			1	0.4	0.1	50.0	6-1	

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

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USASA (2)
CNGB (1)
OCC–E (7)
Dir of Trans (1)
CofEngrs (1)
TSG (1)
CofSptS (1)
USACDCCEA (1)
USACDCCEA, Ft Monmouth (1)
USACDCCBRA (1)
USACDCOA (1)
USACDCQMA (1)
USACDCTA (1)
USACDCADA (1)
USACDCARMA (1)
USACDCAVNA (1)
USACDCARTYA (1)
USACDCSWA (1)
USAMC (5)
USCONARC (5)
ARADCOM (5)
ARADCOM Rgn (2)
OS Maj Comd (4) except USASETAF (5)
LOGCOMD (2)
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USATC Inf (2)
USASTC (2)
WRAMC (1)
USA Pic Cen (2)
Instl (2) except Ft Monmouth (70)
Ft Hancock (4) Ft Gordon (10)
Ft Huachuca (10) WSMR (5) Ft Carson (25)
Army Dep (2) except LBAD, TOAD (14)
SAAD (30) FTWOAD (10) LEAD, NAAD,
SVAD (5) ATAD (4) SHAD, CHAD (3)
GENDEP (2)
Sig Sec, GENDEP (5)
Sig Dep (12)
Army Tml (1) except OART (5)
Sig Fld Maint Shops (2)
AMS (1)
USAERDAA (2)
USAERDAW (13)
Units org under fol TOE: (2 each UNOINDC)
7
11–5
11–6
11–15
11–16
11–18
11–35
11–36
11–55
11–56
11–57
11–85
11–86
11–87
11–95
11–97
11–98
11–117
11–155
11–157
11–337
11–500 AA–AE (4)
11–587
11–592
11–597
17
37

NG: State AG (3) Units same as active Army except allowance is one copy each unit.

USAR: None.

For explanation of abbreviations used, see AR 320–50.

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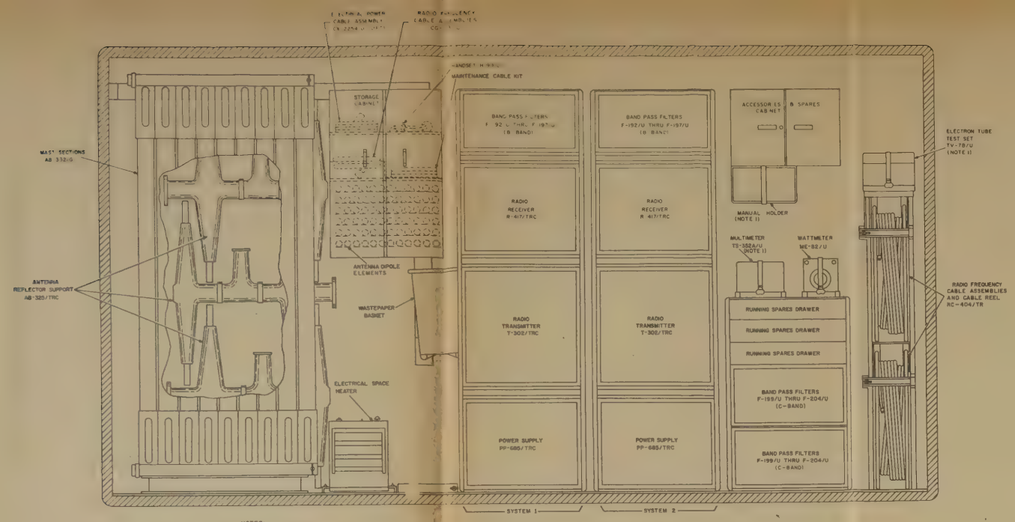
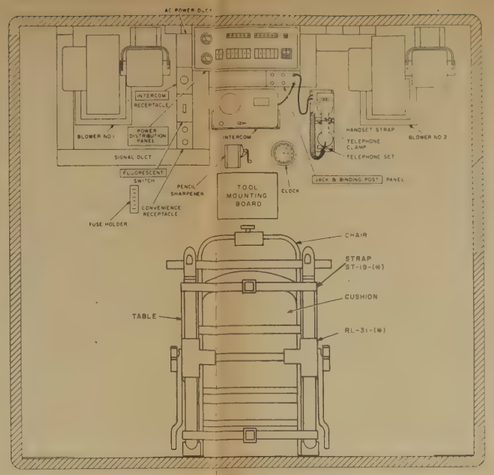
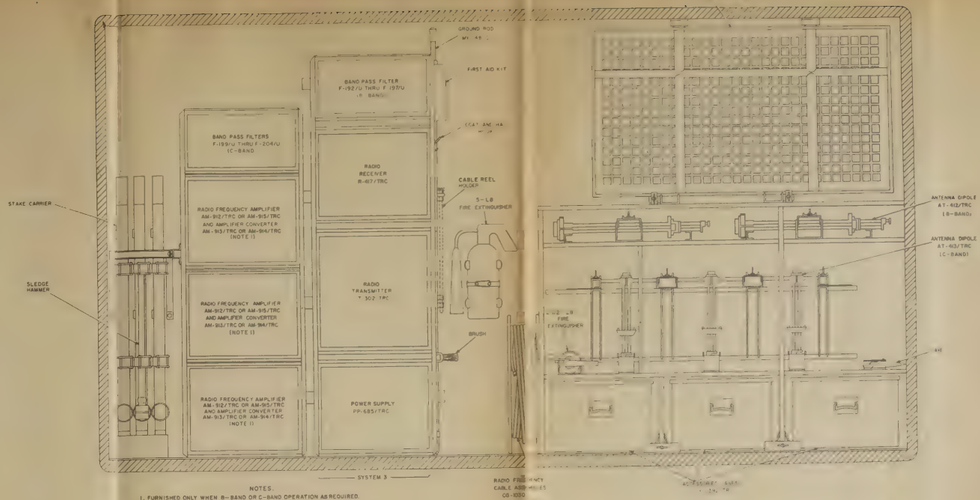


NOTES:
1. NOT FURNISHED AS PART OF AN/MRC-54(V).
2. BAND PASS FILTERS AND ANTENNA COMPONENTS SHOWN ARE FURNISHED FOR B-BAND OR C-BAND OPERATION

A. ROADSIDE WALL

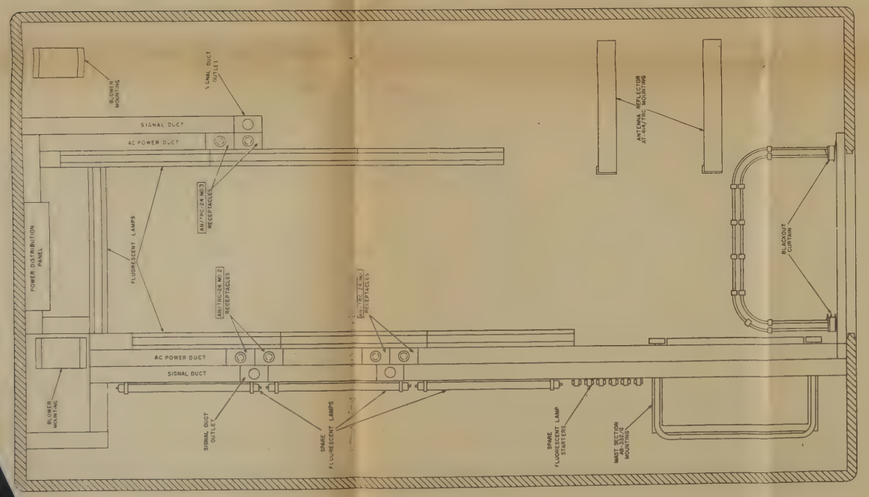


B. FRONT WALL

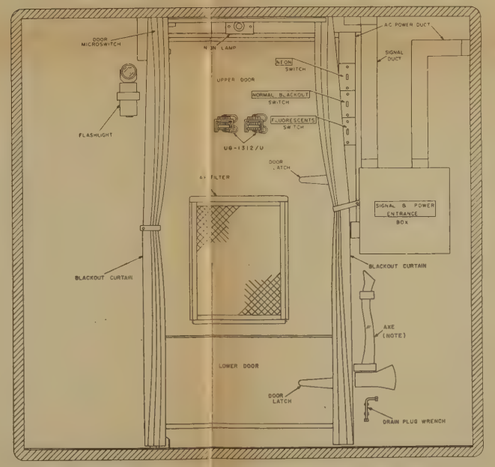


NOTES:
1. FURNISHED ONLY WHEN B- BAND OR C-BAND OPERATION AS REQUIRED.
2. ITEMS ON SOME ASSEMBLAGES ARE LOCATED AS FOLLOWS:
   AXE — BELOW POWER AND SIGNAL ENTRANCE BOX
   CHAIR — AGAINST ANTENNA COMPONENT RACK ADJACENT TO CABLE REEL RC-404/TR
   2-1/2-LB FIRE EXTINGUISHER — ON TOP OF EQUIPMENT RACK ADJACENT TO SLEDGE HAMMER
   5-LB FIRE EXTINGUISHER — ON TOP OF RIGHT-HAND ACCESSORIES CASE CY-1392/TRC

C. CURBSIDE WALL

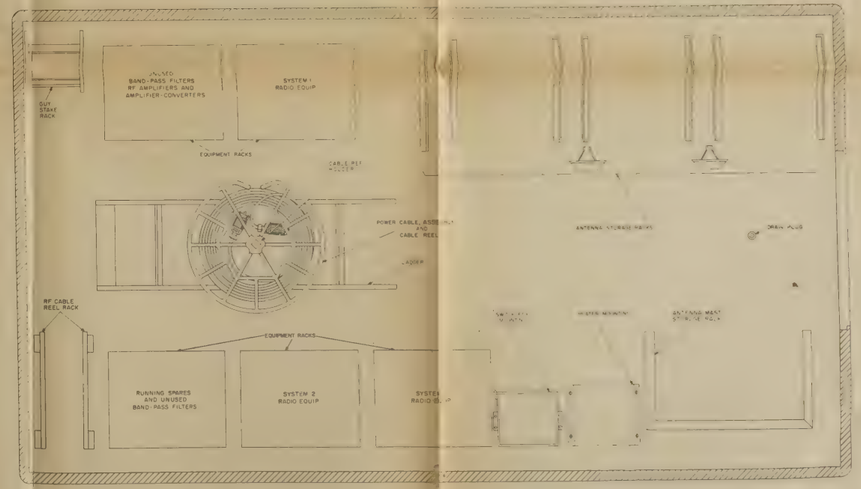


D. CEILING PLAN



NOTE:
AXE MOUNTED IN CURBSIDE REAR CORNER IN SOME ASSEMBLAGES.

E. ENTRANCE WALL



F. FLOOR PLAN

NOTE:
INDICATES EQUIPMENT MARKINGS

TM5820-203-7

Figure 6-1. AN/MRC-54(V), wall, floor, and ceiling plans.

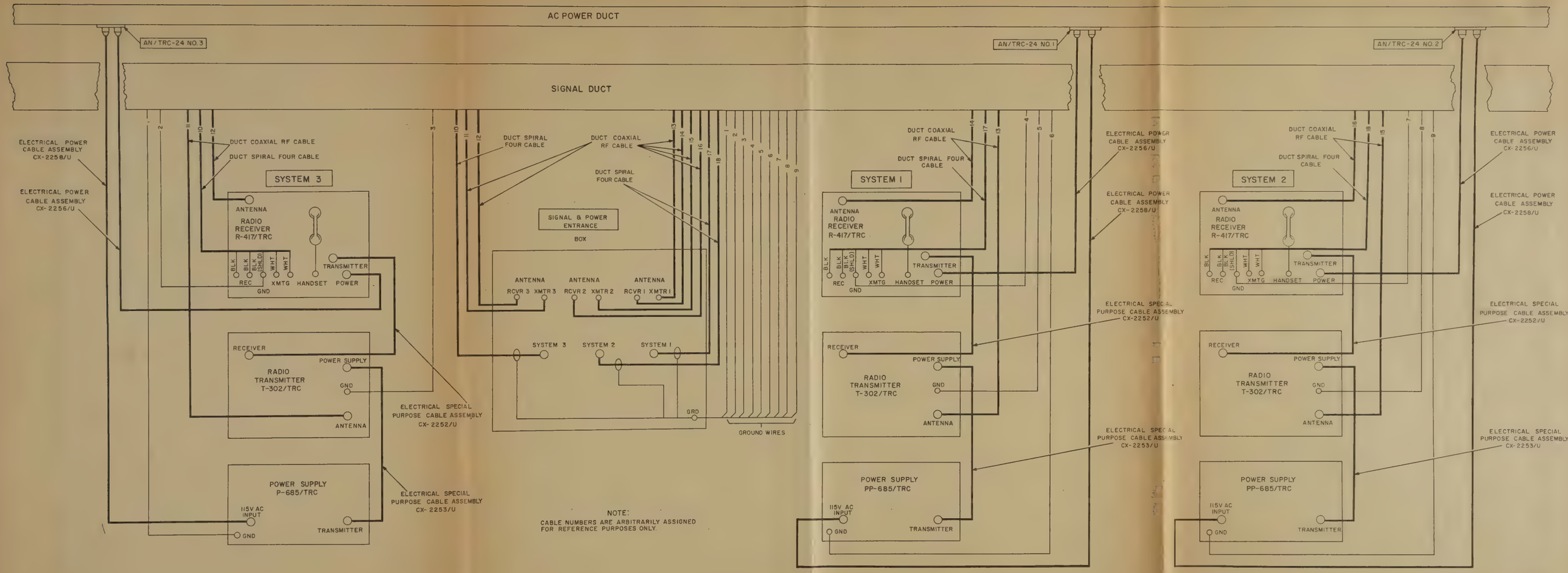


Figure 6–2. AN/MRC–54(V), cabling diagram.

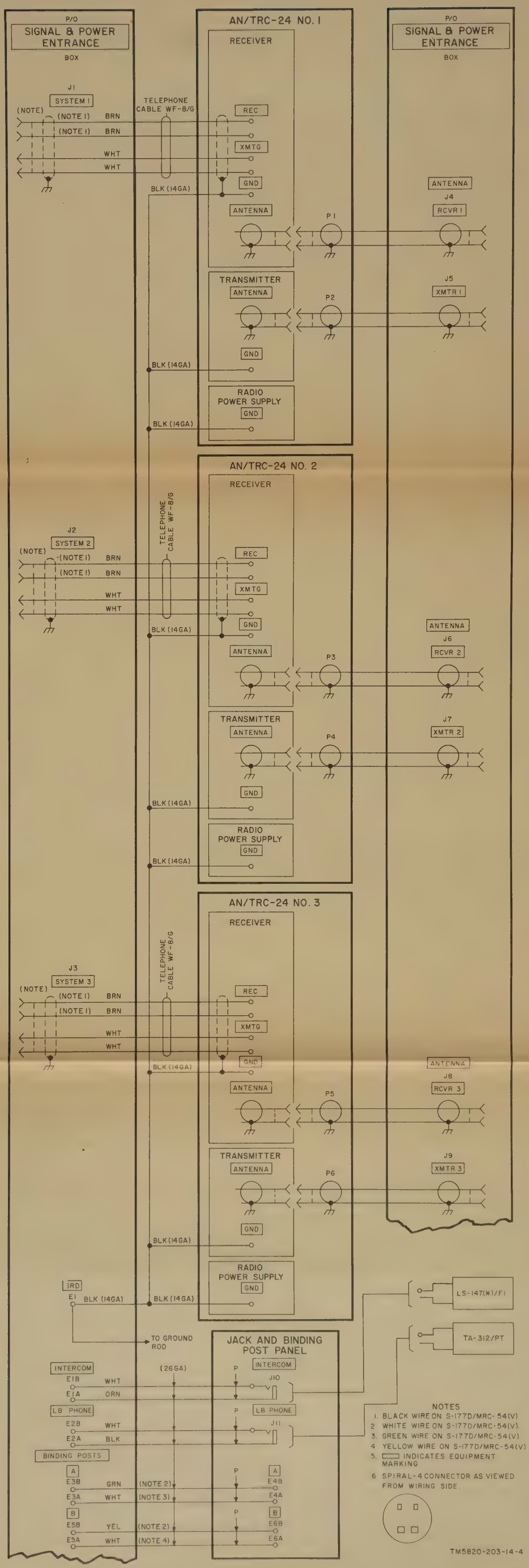
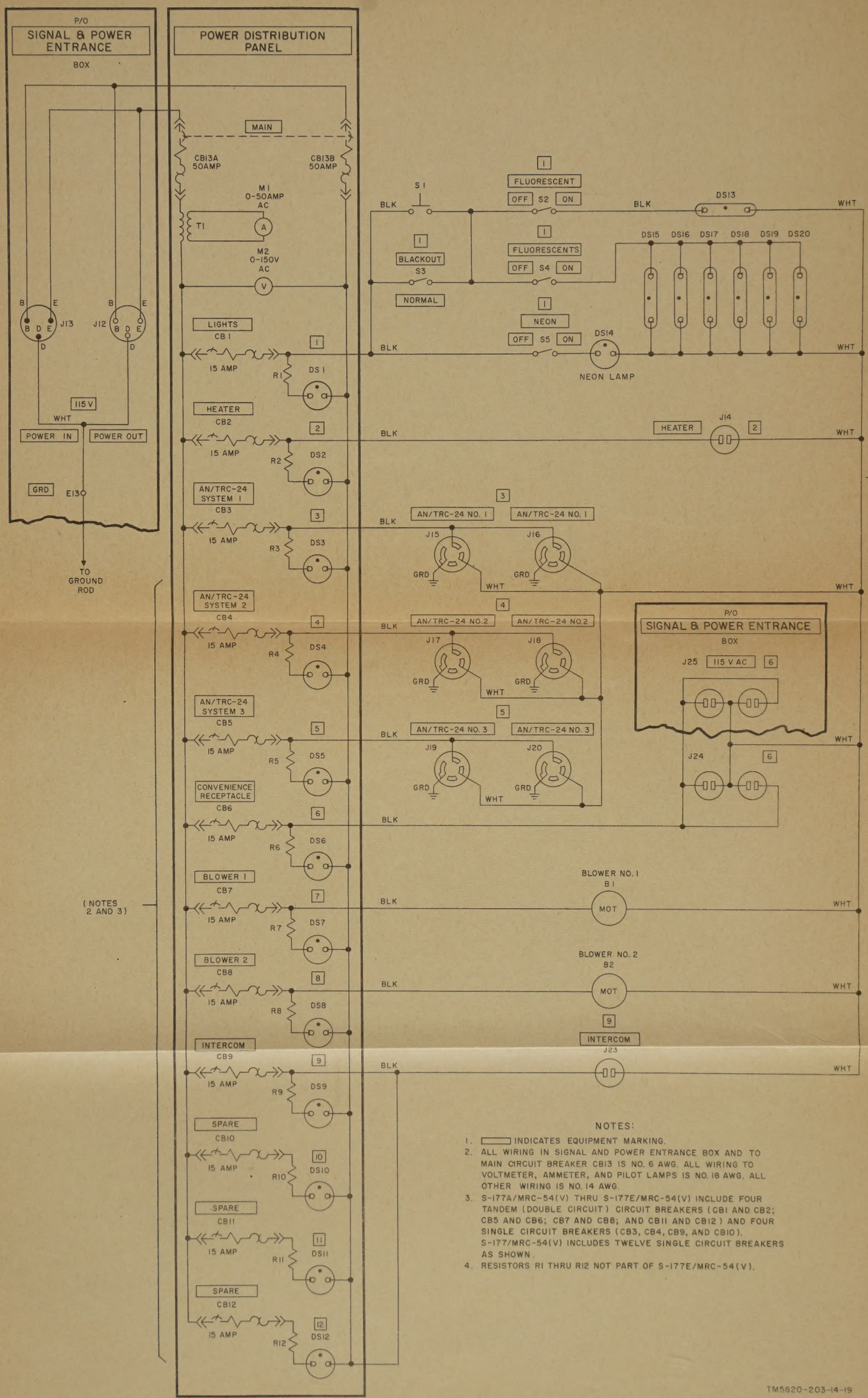


Figure 6–8. AN/MRC–54(V), signal circuitry, schematic diagram.



NOTES:

1. ▭ INDICATES EQUIPMENT MARKING.
2. ALL WIRING IN SIGNAL AND POWER ENTRANCE BOX AND TO MAIN CIRCUIT BREAKER CB13 IS NO. 6 AWG. ALL WIRING TO VOLTMETER, AMMETER, AND PILOT LAMPS IS NO. 18 AWG. ALL OTHER WIRING IS NO. 14 AWG.
3. S-177A/MRC-54(V) THRU S-177E/MRC-54(V) INCLUDE FOUR TANDEM (DOUBLE CIRCUIT) CIRCUIT BREAKERS (CB1 AND CB2; CB5 AND CB6; CB7 AND CB8; AND CB11 AND CB12) AND FOUR SINGLE CIRCUIT BREAKERS (CB3, CB4, CB9, AND CB10). S-177/MRC-54(V) INCLUDES TWELVE SINGLE CIRCUIT BREAKERS AS SHOWN.
4. RESISTORS R1 THRU R12 NOT PART OF S-177E/MRC-54(V).

TM5820-203-14-19

Figure 6-4. AN/MRC-54(V), power circuitry, schematic diagram.

TM 11-5820-203-15 REPEATER SET, RADIO AN/MRC-54(V) INCLUDING REPAIR PARTS AND SPECIAL TOOL LISTS—1965